T-RackS 3

High-End Mastering & Mixing Suite

9 Dynamics/EQ processors, full metering, plug-in and standalone

PLEASE NOTE

T-RackS® is a registered trademark property of IK Multimedia Production. All other product names and trademarks are property of their respective owners, which are in no way associated or affiliated with IK Multimedia. All names of products, artists, bands and records are used solely for the purpose of identifying the specific products that were studied during IK Multimedia's sound model development and for describing certain types of tones produced with IK Multimedia's digital modeling technology. Use of these names do not imply any cooperation or endorsement.

Fairchild® is a trademark property of Avid Technology, Inc.

Table of Contents

I	**Contents**	3
II	**Interface**	6
III	**License Agreement**	8
IV	**T-RackS 3 versions**	11
Chapter 1	**What is T-RackS 3**	13
1.1	Introduction	13
1.2	What's new in T-RackS 3	13
1.2.1	9 module processors	14
1.2.2	12 processing slots mastering chain	15
1.2.3	Accurate, complete and truly useful Metering	15
1.2.4	All-platform plug-ins and standalone versions in the same package	16
1.2.5	High transparency, extremely high quality audio processing	16
1.2.6	SCC™ technology	17
1.3	Block diagram	17
1.4	Architecture	18
1.5	Interface	18
Chapter 2	**Getting started**	21
2.1	Using T-RackS as a Standalone	21
2.1.1	Starting T-RackS in standalone mode	21
2.1.2	Loading and playing files	24
2.1.3	Inserting processors	25
2.1.4	Processing your master	26
2.1.5	T-RackS 3 Project	27
2.2	Using T-RackS as a Plug-in	29
2.2.1	Pro Tools	29
2.2.2	Cubase	29
2.2.3	Nuendo	29
2.2.4	Logic Pro/ Logic Express	29
2.2.5	Digital Performer	30
2.2.6	Live	30
2.2.7	Sonar	30
2.2.8	GarageBand	30
2.2.9	Acid	30
2.2.10	Tracktion	31
2.2.11	Riffworks	31
Chapter 3	**General controls**	33
3.1	Double Chain	33
3.2	Compare function	34
3.3	Presets	34
3.4	A-B-C-D settings	36
3.4	Preferences	36
3.5	Info	37

3.6	Lock	38
3.7	General controls (standalone)	38
Chapter 4	**T-RackS 3 module processors**	43
4.1	Vintage Tube Compressor/Limiter model 670	43
4.2	Tube Program Equalizer model EQP-1A	44
4.3	Opto Compressor	46
4.4	Intelligent, multi-algorithm Brickwall Limiter	47
4.5	High precision, high definition Linear Phase Equalizer	49
4.6	Classic T-RackS Compressor	50
4.7	Classic T-RackS Multi-band Limiter	52
4.8	Classic T-RackS Clipper	54
4.9	Classic T-RackS Equalizer	55
Chapter 5	**Metering**	59
5.1	Peak Meter	59
5.4	Perceived Loudness	60
5.3	RMS	60
5.5	Correlation	61
5.6	Spectrum Analyzer	61
Chapter 6	**Automation**	63
6.1	Automating parameters	63
6.2	Left Pane	64
6.3	Right Pane	65
Chapter 7	**Mastering tips**	67
7.1	Introduction	67
7.2	T-RackS 3 chain setup tips	67
7.3	Comparing original mixes with the T-RackS processed master	67
7.4	Loudness	68
7.5	Simple mastering chain	68
7.6	Advanced mastering chain	69
7.7	T-RackS 3 models tips	70
7.7.1	Vintage Compressor Model 670	70
7.7.2	Opto Compressor	71
7.7.3	Linear Phase Equalizer	72
7.7.4	Brickwall Limiter	73
7.7.5	Vintage Program Equalizer EQ-1A	74
7.8	Managing Latency	74
7.9	Master your room	75
Chapter 8	**Troubleshooting**	77
Chapter 9	**Support**	81
9.1	User Area	81

T-RackS Interface

New presets management with GLOBAL chain and SINGLE processor presets

5 new processors in addition to T-RackS 4 classic processors for a total of 9 mixing/mastering processors

Standalone and Plug-in in the same package

New modular mastering/mixing chain with up to 12 parallel/ series processors, one click single/global bypass, volume-adjustable compare function

New complete built-in metering section with Peak, Perceived Loudness, Phase, RMS meters and Spectrum Analyzer with Peak, RMS and Averaging indication

New standalone version with multiple audio file processing, waveform display, FADE IN/FADE OUT controls, LOOP auditioning, multiple SNAP points for automating audio processing points, single/multiple file PROCESSING up to 32 bit/192 KHz WAV/AIFF files

License Agreement

END-USER LICENSE AGREEMENT FOR IK MULTIMEDIA PRODUCT

Please read this document carefully before breaking the seal on the media package. This agreement licenses the enclosed software to you and contains warranty and liability disclaimers.

By breaking the seal on the media envelope, you are confirming to have taken notice of terms and conditions of this agreement and you acknowledge your acceptance of the software as well as your acceptance of the terms of this agreement. If you do not wish to do so, do not break the seal. Instead, promptly return the entire package, including the unopened media package, to the dealer from whom you have obtained it, for a full refund.

1) DEFINITIONS

"EULA" means this end user license agreement

"IK Multimedia Product" means the software program included in the enclosed package, and all related updates supplied by IK Multimedia.

"IK Multimedia Product" means the software program and hardware (if any) included in the enclosed package, the related documentation, models, multimedia content (such as animation, sound and graphics) and all related updates supplied by IK Multimedia.

"Not for resale (NFR) Version" means a version of IK Multimedia Product, so identified, is intended for review and evaluation purposes, only.

2) LICENSE

The "IK Multimedia Product" is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The "IK Multimedia Product" is licensed, not sold. This EULA grants you the rights as specified here below. All other actions and means of usage are reserved to the written permission of the right holder IK Multimedia Production Srl:

Applications Software. The "IK Multimedia Product" may be used only by you. You may install and use the "IK Multimedia Product", or any prior version thereof for the same operating system, on up to three (3) computers, provided that (a) each computer is owned by (or leased to) and under the exclusive control of the licensee; (b) the program(s) shall NOT be used simultaneously on more than one machine, and (c) any computer(s) with IK Multimedia software installed shall not be sold, rented, leased, loaned or otherwise be removed from the licensee's possession without first removing (uninstalling) the licensed software, except as provided in Paragraph 4 (below) pertaining to "Software Transfer".

Storage/Network use. You may also store or install a copy of the "IK Multimedia Product" on a storage device, such as a network server, used only to install or run the "IK Multimedia Product" on your other computers over an internal network; however, you must acquire and dedicate a distinct license for each user of the "IK Multimedia Product" from the storage device. Any given license for the "IK Multimedia Product" may not be shared or used concurrently or otherwise on different computers or by different developers in a given organization.

3) AUTHORIZATION CODE

The "IK Multimedia Product" only functions when you are in the possession of an authorization code. You will receive an authorization code upon completing the authorization code request procedure. Once your authorization code is activated, you may use the product.

You agree to follow the authorization code request procedure and will provide true, accurate and complete information about yourself. If you provide any information that is untrue, inaccurate, not correct or incomplete, or IK Multimedia has reasonable grounds to suspect that such information is untrue, inaccurate, not correct or incomplete, IK Multimedia has the right to suspend or to revoke the license.

The termination of the license shall be without prejudice to any rights, whatsoever, of IK Multimedia.

4) DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS

Limitations on Reverse Engineering, Decompilation, and Disassembly. You may not reverse engineer, decompile, or disassemble the "IK Multimedia Product", except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation of components. The "IK Multimedia Product" is licensed as a single product. Its component parts may not be separated for use on more than one computer.

Not for Resale Version. If the "IK Multimedia Product" is labeled "Not for Resale" or "NFR" or "Evaluation Copy", then, notwithstanding other sections of this EULA, you may not sell, or otherwise transfer the "IK Multimedia Product".

Rental. You may not rent, lease, or lend the "IK Multimedia Product" to any party.

Software Transfer. You may not transfer, license or sublicense your rights as Licensee of the software or any IK Multimedia product, as licensed to you under this agreement without prior written consent of the rights owner. The carrier on which the IK Multimedia product has been distributed may be transferred or otherwise made available to any third party only with the prior written consent of the rights owner and provided that (a) the original media

and license(s) accompany the carrier and (b) the party transferring the media does not retain a copy of the media.

5) UPGRADES

If the "IK Multimedia Product" is labeled or otherwise identified by IK Multimedia as an "upgrade", you must be properly licensed to use a product identified by IK Multimedia as being eligible for the upgrade in order to use the "IK Multimedia Product".

An "IK Multimedia Product" labeled or otherwise identified by IK Multimedia as an upgrade replaces and/or supplements the product that formed the basis for your eligibility for such upgrade. You may use the resulting upgraded product only in accordance with the terms of this EULA. If the "IK Multimedia Product" is an upgrade of a component of a package of software programs that you licensed as a single product, the "IK Multimedia Product" may be used and transferred only as part of that single product package and may not be separated for use on more than one computer.

6) DUAL-MEDIA SOFTWARE

You may receive the "IK Multimedia Product" in more than one medium. You may not loan, rent, lease, or otherwise transfer the other medium to another user, except as part of the permanent transfer (as provided above) of the "IK Multimedia Product".

7) LIMITED WARRANTY

IK Multimedia warrants to the original purchaser of the computer software product, for a period of ninety (90) days following the date of original purchase, that under normal use, the software program and the user documentation are free from defects that will materially interfere with the operation of the program as described in the enclosed user documentation.

8) WARRANTY CLAIMS

To make a warranty claim under the above limited warranty, please return the product to the point of purchase, accompanied by proof of purchase, your name, your return address and a statement of the defect, or send the CD(s) to us at the below address within ninety (90) days of purchase. Include a copy of the dated purchase receipt, your name, your return address and a statement of the defect. IK Multimedia or its authorized dealer will use reasonable commercial efforts to repair or replace the product and return it to you (postage prepaid) or issue to you a credit equal to the purchase price, at its option.

9) LIMITATIONS ON WARRANTY

IK Multimedia warrants only that the program will perform as described in the user documentation. No other advertising, description or representation, whether made by a IK Multimedia dealer, distributor, agent or employee, shall be binding upon IK Multimedia or shall change the terms of this warranty.

EXCEPT AS STATED ABOVE, IK MULTIMEDIA MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, REGARDING THIS PRODUCT. IK MULTIMEDIA DISCLAIMS ANY WARRANTY THAT THE SOFTWARE IS FIT FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTY OF MERCHANTABILITY SHALL BE LIMITED TO A NINETY (90) DAY DURATION OF THIS LIMITED EXPRESS WARRANTY AND IS OTHERWISE EXPRESSLY AND SPECIFICALLY DISCLAIMED. IK MULTIMEDIA SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES, EVEN IF IK MULTIMEDIA IS ADVISED OF OR AWARE OF THE POSSIBILITY OF SUCH DAMAGES. THIS MEANS THAT IK MULTIMEDIA PRODUCTION SRL SHALL NOT BE RESPONSIBLE OR LIABLE FOR THE LOSS OF PROFITS OR REVENUES, OR FOR DAMAGES OR COSTS AS A RESULT OF LOSS OF TIME, DATA OR USE OF THE SOFTWARE, OR FROM ANY OTHER CAUSE EXCEPT THE ACTUAL COST OF THE PRODUCT. IN NO EVENT SHALL IK MULTIMEDIA LIABILITY EXCEED THE PURCHASE PRICE OF THIS PRODUCT.

10) CHOICE OF LAW

You agree that any and all claims, suits or other disputes arising from your use of the software shall be determined in accordance with the laws of Italy, in the event IK Multimedia, is made a party thereto. You agree to submit to the jurisdiction of the court in Modena, Italy for all actions, whether in contract or in tort, arising from your use or purchase of the software.

11) GENERAL

This Agreement contains the complete agreement between the parties with respect to the subject matter hereof, and supersedes all prior or contemporaneous agreements or understandings, whether oral or written. All questions concerning this Agreement shall be directed to:

IK Multimedia Production Srl
Via dell'Industria 46
41100 Modena
Italy

© 2008 IK Multimedia. All rights reserved.

T-RackS 3 versions

T RackS 3 comes in 3 different versions:

- T-RackS 3 Deluxe
- T-RackS 3 Standard
- T-RackS 3 EQ

The difference between each version is in the number of module processors included.

T-RackS 3 version	Module processors included
T-RackS 3 Deluxe	Vintage Tube Compressor/Limiter model 670
	Tube Program Equalizer model EQP-1A
	Opto Compressor
	Brickwall Limiter
	Linear Phase Equalizer
	Classic T-RackS Compressor
	Classic T-RackS Multi-band Limiter
	Classic T-RackS Clipper
	Classic T-RackS Equalizer
T-RackS 3 Standard	Classic T-RackS Compressor
	Classic T-RackS Multi-band Limiter
	Classic T-RackS Clipper
	Classic T-RackS Equalizer
T-RackS 3 EQ	Classic T-RackS Equalizer

While consulting this manual, please refer to the specific module processors included in the T-RackS version you are using.

T-RackS 3
670 PRESET
PRESET
GLOBAL
MODULE
SAVE
SAVE AS
DELETE
1A TR COMP
2A EQ 1A
3A TR COMP
4A Model 670
5 TR COMP
6 OPTO COMP
7 EQ 1A
8 BR WALL
SHOW CHAIN
COMPARE
OFF
RESET
LINK
LEFT RIGHT
LAT VERT
AGC
DC THRES
LEFT-LAT
RIGHT-VERT
LEFT-LAT TIME CONSTANT
RIGHT-VERT TIME CONSTANT
LEFT CHANNEL INPUT GAIN
RIGHT CHANNEL INPUT GAIN
LEFT-LAT THRESHOLD
RIGHT-VERT THRESHOLD
ON
IN
OUT
GR
VU-METER
OUTPUT
T-RackS
VINTAGE COMPRESSOR
MODEL 670
PEAK
RMS
PERCEIVED LOUDNESS
PHASE
CORRELATION
SPECTRUM
SETTINGS
INFO
PREF
AUTO
COPY TO
A
B
C
D
AUDIO FILES
DURATION
1. Song 1.wav 03:23:70
2. Song 2.wav 03:23:70
3. Song 3.wav 03:23:70
IN
FADE IN
OUT
FADE OUT
00:00:00
00:05:48
03:23:70
03:04:25
SNAPSHOT
Snapshot active: 3
ON
SNAP
COPY
01:17:29
DELETE
Loop
Fade
Out
LOAD
REMOVE
01:30:68
CPU 96%
PROCESS

figure 1.0

Chapter 1 What is T-RackS 3

1.1 Introduction

IK Multimedia pioneered analog-modeled mastering with the first all-in-one software solution, the original standalone version of T-RackS, that became a cult hit for a multitude of studios around the world.

The new T-RackS 3 (figure 1.0) raises the bar again in DAW mastering and mixing with a Dynamics & EQ suite of analog modeled and digital processor plug-ins with an audio quality that is unmatched on the software market and scores of new and unique features.

T-RackS 3 processors include high-end analog and digital EQs, Compressors and Limiters that offer amazing sonic performance with a similar working environment to that of professional mastering stations - right on your desktop - both as a plug-in for all the most popular DAWs or as a standalone application.

Even though T-RackS has been designed for mastering, its quality plug-in units can sound amazing on individual tracks too. We suggest using them on critical tracks like lead vocals, drums, bass, acoustic guitars and so on, every time you need that pristine, warm and open sound T-RackS is renowned for.

1.2 What's new in T-RackS 3

Modular mastering/mixing suite of dynamics and EQ processors, including:

- 9 effects processors comprised of 3 new vintage analog emulations (including models based on the Fairchild 670 and the Pultec EQP-1A) and 2 new digital processors as well the four classic, award-winning T-RackS processors
- New configurable mastering/mixing chain – runs up to 12 parallel/series processors
- New complete built-in metering section with Peak, Perceived Loudness, Phase, and RMS meters, plus Spectrum Analyzer with Peak, RMS and Averaging indicators
- New high-fidelity oversampling with high transparency, for extremely high quality audio processing throughout the entire signal path
- New standalone and plug-in versions available in the same package for use in all the most popular native DAWs
- New SCC™ (Sonic Character Cloning) technology coupled with IK's unique DSM™ (Dynamic Saturation Modeling) technology to provide the most realistic software emulation of vintage gear to date
- Extremely easy to use with style-based presets, full chain visualization, one-click single module or chain bypass, "compare" function, multiple audio file processing in standalone mode and much more.

1.2.1 9 module processors

5 New T-RackS processors:

figure 1.1

Vintage Tube Compressor/Limiter model 670

Based on the "Holy Grail" of compressors/limiters, the Fairchild 670 (figure 1.1). With a faithful reproduction of every control, this is an incredibly accurate model that captures every nuance of one of the best Fairchild units available. The original unit delivers a truly magic touch that makes everything that passes through it shine and sound more musical and emotional, and was analyzed for months for every single detail to reveal all of its secrets. IK's unique analog-modeling experience and exclusive DSM™ (Dynamic Saturation Modeling) technology pushes this model to the limit and beyond, so we developed a new custom, proprietary method dubbed SCC™ (Sonic Character Cloning) – with results that can only be described as magic! It took us a very long time, but we believe it was well worth the effort, and you'll be the one who will say that this is the only 670 digital recreation that actually treats music like the original. Stereo or Lat/Vert (MS) operation.

figure 1.2

Tube Program Equalizer

Based on what is universally known as one of the best and most musical program EQs ever made, the Pultec EQP-1A (figure 1.2). Extremely accurate modeling of two real world units, known to "have the sound", with sonic performance that is indistinguishable from the originals, thanks to IK's DSM™ and new SCC™ technology. Stereo or MS operation.

Opto compressor

Optical compression has a special sonic character that true audiophiles appreciate nowadays. This analog-modeled module faithfully recreates that particular (and extremely musical) "movement" that characterizes only the best opto compressors. An important characteristic of opto compression is the total absence of distortion and coloration during gain reduction, and you can expect the same performance from IK's Opto compressor. Stereo or MS operation.

Intelligent, multi-algorithm Brickwall Limiter

Multi-algorithm Brickwall Limiter that can really make your masters loud without squashing them to a lifeless sound (unless you want that!). Accurate and transparent, digital brickwall limiting can't get any better than this. Selectable algorithms to match the best limiting style for each program type.

High precision, high definition Linear Phase Equalizer

An accurate, high definition, high precision EQ that can be trusted for delicate Mastering tasks with 6 completely identical bands that can be set to all available filter types and that can span the whole spectrum range (any kind of overlap is possible). Switchable between minimum and linear phase characteristics. Stereo or MS operation.

4 Classic T-RackS processors:

Classic T-RackS Compressor
Classic tube stereo compressor/leveler designed for mastering

Classic T-RackS Multi-band Limiter
Multiband master stereo limiter

Classic T-RackS Clipper
Soft-clipping stage to create warm, saturated mastering effects

Classic T-RackS Equalizer
State-of-the-art six band parametric equalizer, modeled on classic top quality analog gear

1.2.2 12 processing slots mastering chain

Modular mastering/mixing solution with 12 processing slots:

- Audio chain with 12 new selectable processing slots, arranged in two rows of 4+4 slots for parallel processing plus 4 series final slots.
- Modules can be easily switched on/off with a single click, singularly or all of them, at any time for quick A/B of the monitored audio, without need for navigating or scrolling.
- Single module or global chain visualization options
- "Compare" function allows comparison between the sound of processed version and the original, with precise level matching, so that you can really judge the sound changes and not be mislead by a volume increase.

1.2.3 Accurate, complete and truly useful Metering

T-RackS 3 includes a new high quality, high precision, complete metering section. This includes:

- A precision three-scale Peak meter with accurate sample indicators and real digital "Over" indication.
- Real Perceived Loudness meter. This is an amazingly useful meter that is not included on most software processors you can find. It shows the REAL loudness that will be perceived on your masters. Compare your preferred records with your works on this meter, and you'll immediately see where to go with loudness management.
- Phase scope, with options to match the style and indication you're used to
- Phase correlation
- Spectrum Analyzer with Peak, RMS and Averaging indicators.
- RMS meter
- Loudness and RMS metering "optimal" zones' indication, selectable by genre and style.

1.2.4 All-platform plug-ins and standalone versions in the same package

- Plug-ins fully integrate with all of today's popular DAWs
- Standalone allows for loading multiple audio files, previewing them with independent settings and processing all of them with a single click.
- Standalone includes extremely high quality sampling rate conversion to write 44.1 kHz CD files, starting from any sampling rate.
- Built-in dithering with various options
- Automation made easy: you can take snapshots on each song and automate processing parameter changes during the song, for example, when passing from verses to choruses, etc, all with a single click.
- Non-destructive basic audio editing.

1.2.5 High transparency, extremely high quality audio processing

You may think digital processors are transparent in general, and of a quality high enough for audio mastering. That's not always true. Very simple processing like a filter or a dynamic gain change can literally ruin your sound beyond rescue if they're not performed at the highest possible quality by applying techniques that are not so commonly used.

T-RackS 3 delivers incredible purity, transparency and fidelity far superior to the vast majority of plug-ins you could compare it with. If you are familiar with the sound of top quality analog and digital hardware equalizers that are used daily in top mastering houses, you'll immediately recognize the quality and purity typical of those units here, and if you're not you'll experience what high quality equalization means.

Oversampling perfected. Many digital processors use oversampling to achieve better sound. Unfortunately, many of them, under critical listening sessions, can be found to achieve no significantly better (or even slightly worse) results than the regular sampling rate option. This is because the upsampling and downsampling processes are not done at an adequate level of quality. In other words, typically what is improved by running a processor at double sampling frequency is partially compromised by the loss of quality in the upsamplers and downsamplers. There are only a few pieces of gear, mainly hardware and, until now, all of them really expensive, that have really realized oversampling the way it should be done. T-RackS 3 is one of them. We wanted to offer the same quality of the highest caliber mastering tools, and the result is a process that has no side effect at all on the sound: total transparency. So what you hear is exactly the same sound of the processor running at double sampling rate, with no side effects.

1.2.6 SCC™ technology

With over 10 years of experience in analog-modeled software, IK has pioneered this technology and accumulated more experience than any other plug-in manufacturer in the field. This has resulted in several improvements like our unique DSM™ (Dynamic Saturation Modeling) and now the new **SCC™ (Sonic Character Cloning)**. SCC™ has been developed to "clone" the true behavior of an analog vintage processor down to its finest level of sonic detail for a faithful reproduction of all its tonal characteristics. This new emulation technology produces results that are indistinguishable from the originals, even for the professionally trained ear.

- Many pieces of vintage gear tend to have original and interesting circuit topology, due to the creative solutions that engineers were sometimes forced to put into place in order to overcome the limitations of components' technology.
- Vintage component technology (many components can't be found anymore because their technology became obsolete and uneconomical) as well as their aging (some of the best sounding devices are 40-50 years old) played fundamental roles in giving these devices a unique musicality that is what the purist would define to be "unmatched" by even the most advanced processors today.
- And finally, many of the unique sonic characteristics of these magnificent vintage units sometimes depended on erratic and unpredictable behavior of their electronics that would be considered unorthodox and unusable by today's science and standards.

SCC™ technology has the ability, through a new analysis method developed by IK, to integrate all of the above and turn it into mathematical algorithm that, for the first time, is able to take into consideration all of these complex variables and get an exact "clone" of the original; software emulation evolved to a sound quality never heard before. The results are so close to the original units that you will not be able to tell the difference.

1.3 Block diagram

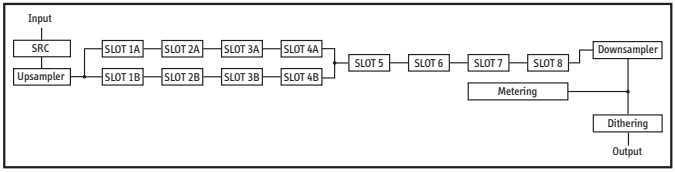


figure 1.3

1.4 Architecture

T-RackS 3 is set up as an audio processing chain that includes a total of 12 slots in parallel and series configuration.

When the signal enters the chain, it is first converted to the correct project Sampling Rate at the highest possible quality, then eventually oversampled.

After being processed by the 12 slots chain the signal goes into final downsampling and dithering stages.

After the final downsampling the signal is then sent to the Metering section.

1.5 Interface

T-RackS 3 interface (figure 1.4) is structured in 7 separate areas:

1. **Presets:** this area is used to save and load T-RackS presets. Presets can be saved/loaded as GLOBAL (the entire mastering chain) or by MODULE (selected module processor).

2. **Double Chain:** this area is used to build the 12-processor mastering chain. 8 slots are provided, the first 4 available in A/B parallel configuration. In this area processors can be loaded in the slots, bypassed singularly or as an entire chain, to allow quick comparison between the original material and the processed one.

3. **Processor Interface:** this area shows the selected processor with all its controls.

4. **Metering section:** all T-RackS meters are conveniently placed in this area and are always visible to keep the most important sonic signal variables under control.

5. **A-B-C-D settings:** these buttons allow you to quickly create 4 different settings for an immediate on-the-fly check between various T-RackS sound configurations.

6. **Other controls:** these buttons allow you to manage software authorization, information, preferences and automation settings in the plug-in.

7. **Standalone file player/editor:** this area is present only in the standalone version of T-RackS and allows you to load multiple audio files to be processed with T-RackS and exported for CD burning or other medium. Each file's waveform is visualized on the right and various basic editing features are available such as FADE IN/FADE OUT, SNAPSHOTS, LOOP POINTS.

T-RackS 3
670 PRESET
PRESET
GLOBAL
MODULE
SAVE
SAVE AS
DELETE
TR COMP
EQ 1A
TR COMP
Model 670
TR COMP
OPTO COMP
EQ 1A
BR WALL
SHOW CHAIN
COMPARE
COMP
EQ
COMP
COMP
COMP
COMP
EQ
LIMITER
OFF
1
2
3
RESET
LINK
LEFT RIGHT
LAT VERT
AGC
DC THRES
LEFT-LAT
RIGHT-VERT
LEFT-LAT TIME CONSTANT
RIGHT-VERT TIME CONSTANT
LEFT CHANNEL INPUT GAIN
RIGHT CHANNEL INPUT GAIN
LEFT-LAT THRESHOLD
RIGHT-VERT THRESHOLD
ON
IN
OUT
GR
VU-METER
OUTPUT
T-RackS
VINTAGE COMPRESSOR
MODEL 670
PEAK
PERCEIVED LOUDNESS
RMS
PHASE
CORRELATION
SPECTRUM
4
SETTINGS
INFO
PREF
AUTO
6
5
COPY TO
A
B
C
D
AUDIO FILES
DURATION
1. Song 1.wav 03:23:70
2. Song 2.wav 03:23:70
3. Song 3.wav 03:23:70
7
IN
FADE IN
OUT
FADE OUT
00:00:00
00:05:48
03:23:70
03:04:25
SNAPSHOT
Snapshot active: 3
ON
SNAP
COPY
01:17:29
DELETE
Loop
In
Fade
Loop
Fade
Out
LOAD
REMOVE
01:30:68
CPU 06%
PROCESS

figure 1.4

Chapter 2 Getting started

T-RackS 3 can be used in standalone mode or as a plug-in.

2.1 Using T-RackS as a Standalone

figure 2.1

2.1.1 Starting T-RackS in standalone mode

In standalone mode (figure 2.1), you can launch T-RackS 3 from your application folder and use it without the need for a host application.

In standalone mode T-RackS 3 performs as a dedicated mastering processing station. You can load multiple files and apply a different double chain of T-RackS processors on each one, also applying FADE IN/OUT to finalize your productions. You can also change any settings of the processing chain during a song with the included SNAPSHOTS function. Controls like LOOP POINTS allows for working on selected part of your song for fine tuning to the highest level of details. All of this is available directly on the audio file WAVEFORM that is conveniently displayed in T-RackS with ZOOM IN/OUT. Once you are done the PROCESS button allows you to export your entire

album with one click with the highest quality for CD or any other multimedia or online medium.

Audio Hardware Settings window

figure 2.2

To work with T-RackS 3 in standalone mode you need to properly adjust its hardware settings (figure 2.2) that control which audio interface is used by the software for its stereo audio output. This window can be launched under the Audio menu in the Menu bar of the standalone. Here you will select the audio interface and buffer size that will be used in T-RackS 3.

Audio Driver: T-RackS 3 is compatible with any ASIO or DirectX audio interface in Windows and any Core Audio compatible audio interface in Mac OS X.

Windows

T-RackS 3 is compatible with ASIO or DirectX compatible audio interfaces on Windows. Use drop down Technology and Output Device menus to select your audio interface (figure 2.3).

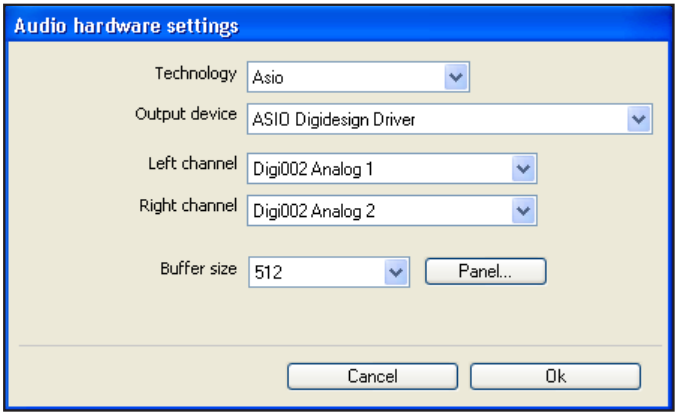


figure 2.3

Left/Right Channel pop-up menus are used to route the T-RackS 3 stereo output to specific audio outputs on the chosen audio interface. Buffer Size allows you to change the buffer size of the audio interface. Click on Panel button to change ASIO settings for your audio interface, like buffer size, sync option etc.

Mac OS X

T-RackS 3 is compatible with Core Audio compatible audio interfaces in Mac OS X. Please select your audio interface from the Output Device drop down menu (figure 2.4).

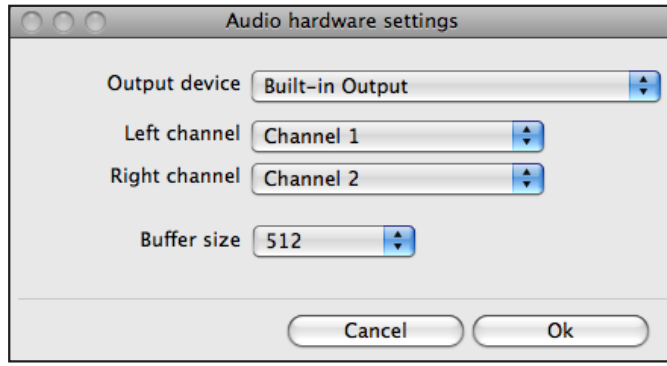


figure 2.4

Left/Right Channel pop-up menus are used to route the T-RackS 3 stereo output to specific audio outputs on the chosen audio interface. Buffer Size menu allows you to change the buffer size of the audio interface. These settings are dependent on the driver of the audio interface itself.

Project Properties window

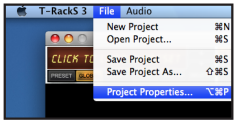


figure 2.5

The Project Properties window (File > Project Properties) (figure 2.5, 2.6) allows you to adjust the T-RackS 3 Project output format (Wave, Aiff, Caf, Sd2) its resolution and sample rate as well as enabling Dithering. The Link T-RackS processors to Audio File check box is used to link loaded audio files to chain processors so when multiple files are loaded the chain automatically switches with them.

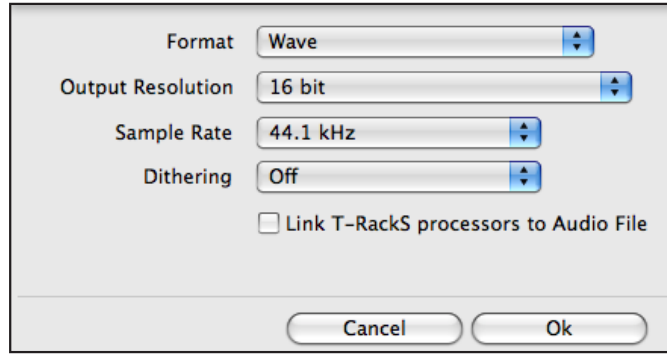


figure 2.6

2.1.2 Loading and playing files

To load audio files into T-RackS 3 standalone simply drag them (figure 2.7) over the interface or load them using the LOAD button (figure 2.8).

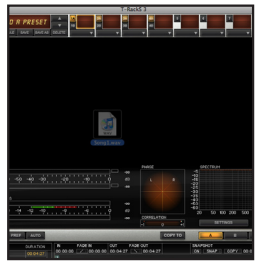


figure 2.7

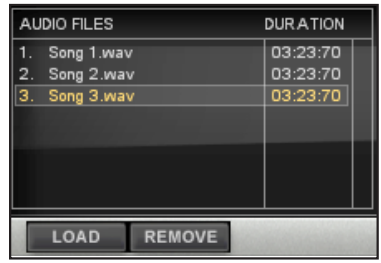


figure 2.8

The audio files will appear on the AUDIO FILES panel in the player/editor window interface (figure 2.9) with their duration listed beside them.

figure 2.9

By clicking on the file in the AUDIO FILES panel its waveform will be displayed on the right. By clicking the PLAY button the file will start playing, and by enabling the LOOP button (figure 2.10) the file will be played in a loop.

figure 2.10

During file play a PLAY CURSOR will be displayed over the waveform with the COUNTER display indicating its position in the file in minutes/seconds/frames format (figure 2.11). The STOP button will stop the file play. Both in PLAY or STOP mode you can skip to a different PLAY point simply by clicking on the desired position on the waveform.

figure 2.11

2.1.3 Inserting processors

To start mastering your files you will need to insert T-RackS processors in the audio chain for the selected file. To do this, simply click on one of the drop down menu buttons corresponding to the available T-RackS chain slots (figure 2.12). This will display the processors menu where you can choose one of the available processors for that slot by selecting it from the menu.

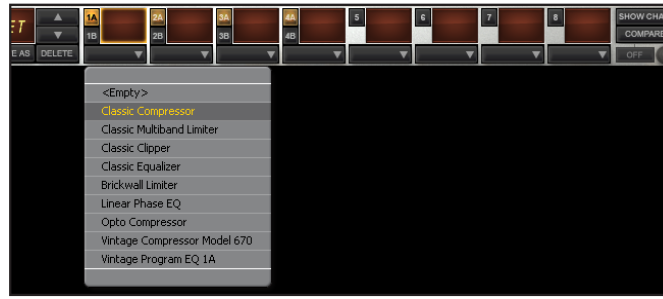


figure 2.12

The abbreviation of the inserted processor will appear in the selected slot and the drop down menu will display the type of processor inserted in the slot (figure 2.13).

figure 2.13

Now the audio will be played through the T-RackS processor inserted in the chain. To insert more processors you can simply repeat the operation for any of the slots. Now you can edit every control of the processors to achieve the desired mastering results, checking your results on the T-RackS metering section.

By selecting a different audio file you can insert a totally different chain unless you have unchecked "Link T-RackS processor to audio file" in the Project Properties window. In this case the chain you have created will also be applied to the newly selected audio file and all others you work on.

Within the same audio file you can apply different T-RackS settings by using the available scene SNAPSHOTS.

2.1.4 Processing your master

When you are satisfied with the results of your processing, you can export your master as an audio file for CD or any other desired music, online or multimedia medium, according to the settings specified in the Project Settings window.

To export the desired files simply click on the PROCESS button (figure 2.14).

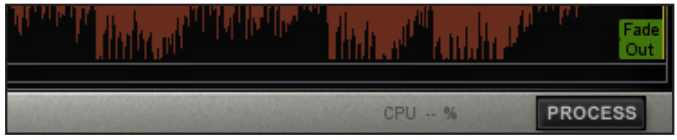


figure 2.14

An Audio Process wizard will appear to guide you through exporting your file (figure 2.15). First you will be asked to specify if you want to process a single file or all open ones.

If you selected to process Current File only click on Browse to specify destination folder and file name.

If you selected to process All Open Files click on Browse to specify a destination folder.

Since you're processing multiple files you won't be able to specify a specific file name. Instead the original file names will be used, with the addition of the postfix you'll add in the "Append to filename" field (figure 2.15).

figure 2.15

A summary of which audio file format is going to be saved is shown on the same window.

Clicking on NEXT will start the processing of your files (figure 2.16) saving them on your hard disk.

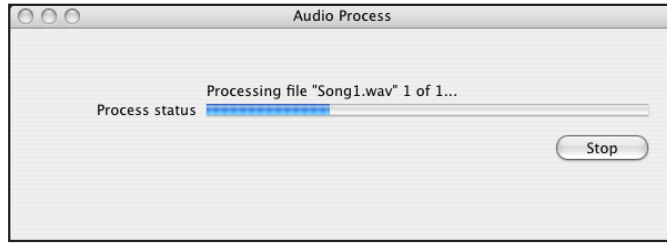


figure 2.16

Your mastered file will be saved in the desired location ready to be distributed.

2.1.5 T-RackS 3 Project

T-RackS 3 standalone can save its current state, a list of loaded audio files, T-RackS processing chain settings, snapshots, fades and other settings into a Project file.

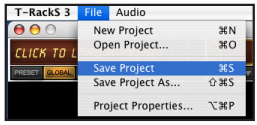


figure 2.17

When you launch T-RackS 3 standalone, an “untitled” project is loaded by default. You can start to load audio files and tweak the T-RackS 3 audio processing chain in this Project.

To save your Project so that it can be loaded later on, select Save Project from File menu (figure 2.17).

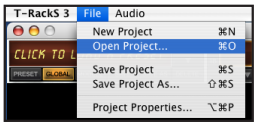


figure 2.18

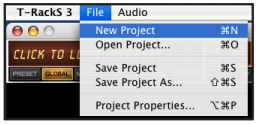


figure 2.19

As you have been working on a default Project you will be asked for a file name and location on your hard drive.

To continue working on this Project later on, select Open Project... (figure 2.18) and locate the file you previously saved (T-RackS 3 projects have a ".trs" extension).

The T-RackS 3 default Project has the following properties:

Output File Format: WAVE
Output Sampling Rate: 44.1 kHz
Output Resolution: 16 bit
Dithering: OFF

T-RackS audio processing chain settings will be linked to the selected Audio File.

IMPORTANT: These are the settings which T-RackS 3 will use when exporting processed Audio Files.

You can create a new Project from scratch by selecting New Project... from File menu (figure 2.19). A new Project window will appear, allowing you to specify a Project name and set all Project properties (figure 2.20).

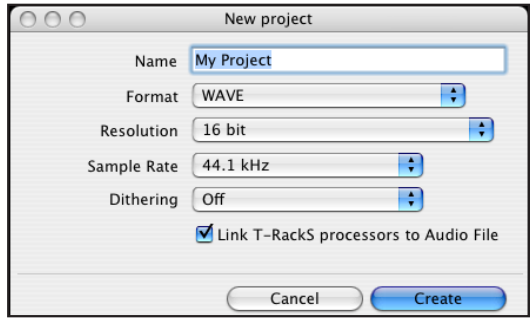


figure 2.20

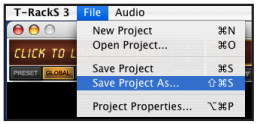


figure 2.21

To save a copy of the Project with a different name and / or to a different location select Save As... from File menu (figure 2.21).

2.2 Using T-RackS as a Plug-in

In addition to being a standalone application, T-RackS 3 also works as a plug-in effect. T-RackS plug-in functions will be exactly the same as the standalone version apart from the file player/editor which is available only in standalone mode. Please read the following instructions about how to start T-RackS in each of the major host applications.

2.2.1 Pro Tools

Launch Pro Tools® and create your new session. Go to Insert/Plug in/Other and select "T-RackS 3" Stereo on a stereo track or on a stereo Master bus.

TIP: if you are using Pro Tools TDM and recording a vocal track while listening to T-RackS, you should insert a TDM plug-in like Digidesign's "TRIM" before T-RackS RTAS. This will let you hear T-RackS RTAS while recording on a TDM system. Otherwise Pro Tools will bypass the RTAS plug-in as soon as the track is RECORD enabled.

2.2.2 Cubase

Launch Cubase®. Click on the audio track, instrument track or Master bus you wish to add T-RackS 3 to. In the inspector window on the left, click on the dark blue bar that says "Inserts" or click on the "e" button beside the track name at the top of the inspector.

Once the inserts are visible (under the insert menu on the Inspector, or on the left side of the audio channel editor window) click on empty insert. Select "T-RackS" to insert it on the selected channel.

2.2.3 Nuendo

Launch Nuendo®, open a new project, then go to Project/Add track/Audio, select your audio track configuration (mono/stereo) and click OK. Click on "Inserts" to expand the menu, and then click on the dark blue area below "i1" to see the available plug-in list. Select T-RackS 3 so it opens. To open/close its interface click on the "e" button.

2.2.4 Logic Pro/ Logic Express

Launch Logic®. Insert "T-RackS 3" on the desired track or on the Master bus from the mixer window. The T-RackS plug-in interface will automatically open.

2.2.5 Digital Performer

Launch Digital Performer™ and create your new session. Go to the Mixer View. Add "T-RackS 3" as an insert on your audio track or on the Master bus. The T-RackS plug-in interface will automatically open. To take advantage of the stereo capabilities of T-RackS, open the plug-in as Mono to Stereo

2.2.6 Live

Launch Live® and click on one of the audio or virtual instrument tracks in the "Mixer Drop Area." Notice in the "Track View" (bottom window), the text "Drop Audio Effects" appears. Now, in the "Browser Window" (window on the left hand side of the screen), click the Plug-in Browser button (it looks like an electric plug). Browse to "T-RackS 3" and click/drag it into the "Track View." Once T-RackS loads, it will appear as a "Device" with an XY controller on it. To open/close the T-RackS interface click the "edit plug-in panel" (small wrench) button at the top of the Device window.

2.2.7 Sonar

Launch Sonar® and create your new session. Open the Console (pressing ALT+3) and locate the audio track or Master bus to which you wish to add T-RackS. Right click into the FX Insert Area (the dark square located in the Audio track's upper area) and choose "T-RackS 3" from the Audio FX sub-menu. The T-RackS plug-in interface will then appear.

2.2.8 GarageBand

Launch GarageBand®, and go to Track/New Track. Set up this window in the following way: click on Real Instrument, Monitor On, Expand the Details menu, and Uncheck the Echo and Reverb effect. Select "T-RackS 3" from the 3rd or 4th effects drop down menu, check its left box, and click the Create button. To open the T-RackS plug-in interface, double click the track (the track info window will pop up) and click on the pencil icon located to the right, and the T-RackS interface will open.

2.2.9 Acid

Launch Acid™, and go to Insert\Audio track. Then go to Insert again and select Assignable FX, double click the VST folder, select "T-RackS 3" and then click on Add/Ok. The T-RackS interface will open.

2.2.10 Tracktion

Launch Tracktion®, open a project and drag the “new filter” from the top right area to the selected audio track or to the Master bus. When the plug-ins list appears, select “T-RackS 3” so its interface will open. To monitor your guitar, click “R” from your selected track input device (left area).

2.2.11 Riffworks

Launch Riffworks Standard®, and click on the Hardware button (located at the bottom of the interface) to turn it off. Then click on the little AMP down arrow and select “T-RackS 3” from the “other” category.

Chapter 3 General controls

3.1 Double Chain

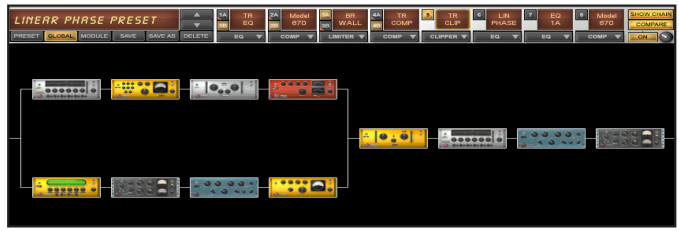


figure 3.1

T-RackS 3 Double Chain (figure 3.1) allows you to insert up to 12 parallel/series processors. It is a fixed configuration audio chain that starts with 4+4 parallel (A/B) processors slots followed by 4 series processors slots. The processors slots are numbered 1 to 4 A and B for the two initial parallel lines of the chain while the 4 final series processors slots are numbered 5 to 8.

figure 3.2

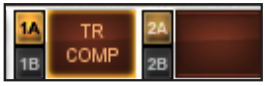


figure 3.3

You can insert any of the available T-RackS processors into the 12 slots. To load a processor simply click the drop down buttons underneath the available slots (figure 3.2). The corresponding slot will become the currently selected one. When a processor is loaded its abbreviated name will appear in the slot display and the number of the slot will appear in bright yellow with black text when selected (figure 3.3). You can select another slot either by clicking directly on its corresponding drop-down menu or by clicking on its number on the left of the slots (1 to 4 A/B and 5 to 8).

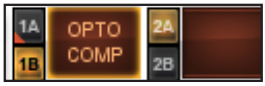


figure 3.4

The dark yellow button with white text on the slot number indicates which slot the display corresponds with. The small red triangle appearing on the slot number 1 to 4 A/B indicates that the slot has been loaded with a processor (figure 3.4).

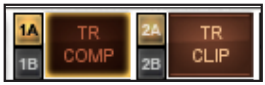


figure 3.5

figure 3.6

Clicking on the slot display will bypass the slot. The abbreviated name of the bypassed processor will be dimmed (figure 3.5). This is the same operation as bypassing the processor on its own interface with the bypass switch.

You can display in any moment the entire chain graphically by clicking on the SHOW CHAIN button (figure 3.6). This will display the chain in full in the T-RackS main interface with graphical icons of every inserted processor. Clicking on any of these graphical icons will switch to the display of the interface of that processor.

3.2 Compare function

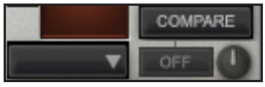


figure 3.7

figure 3.8

figure 3.9

The Compare function allows the comparison between the original file and the one processed with the selected T-RackS chain or processors. Additionally a volume knob is available to set the volume of the processed and unprocessed audio so you can evaluate the two versions by setting the same volume level, to prevent you from misjudging your results because of volume differences.

To activate the compare function click on the COMPARE button (figure 3.7). When the COMPARE button is highlighted with the underneath button OFF you will be hearing the non processed, original audio and the volume knob will adjust its volume level (figure 3.8).

When the COMPARE button is highlighted with the underneath button ON you will hear the processed audio and the volume knob will adjust its volume level (figure 3.9).

By switching the ON/OFF button once you will compare between the original and the processed audio and you will be able to set the volume of the two at comparable levels to make effective decision on the mastering settings you have applied.

3.3 Presets

figure 3.10

You can save the entire T-RackS configuration or single module processor settings into presets that you can store, edit and recall at will.

To load a preset in T-RackS, click on the Preset Display (figure 3.10) and choose from the drop down menu, or click the Up/Down arrows and scroll through the available presets.

The PRESET button will open the Presets Folder, letting you manually move, group, rename and back up your preset files via standard OS window (figure 3.11).

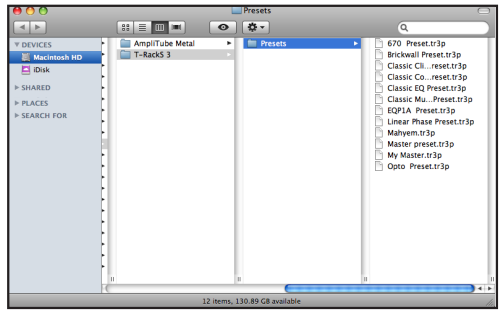


figure 3.11

figure 3.12

The SAVE button saves the current T-RackS settings as a preset. Saving a presets with no previously loaded presets presents the Save window (figure 3.12), where you are requested to select a save folder location on your hard disk (by default this is the Presets folder), and give a name to your preset. An "Overwrite without asking" check box allows you to overwrite presets without being asked to confirm.

In case you click on the SAVE button preset once you would have already a preset loaded a dialog window will prompt you to confirm you want to save the settings over the currently loaded preset (figure 3.13), unless you have checked "Overwrite without asking" in the Save Window.

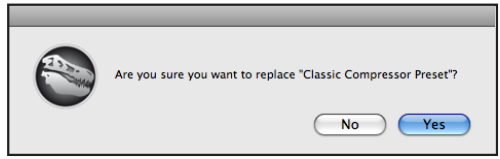


figure 3.13

figure 3.14

The SAVE AS button works like the SAVE button presenting the Save window with the name of the current preset (figure 3.14) displayed in the preset name field, at the same time giving the option to save the preset to another one with a different name.

DELETE preset will delete the currently loaded preset while the GLOBAL and MODULE buttons when activated will allow you to save entire T-RacKS settings or settings related to the currently selected processor only.

3.4 A-B-C-D settings

The A-B-C-D settings (figure 3.15) are 4 different configurations of any of the settings of the entire T-RackS chain and processors that can be saved and recalled on the fly while working on the audio.

figure 3.15

To save and A-B-C-D settings simply click on the COPY TO button. The A-B-C-D buttons will start flashing and clicking on any of them will save the current settings in the choosen one.

You will be able to quickly compare between up to four different configurations without pausing your audio, a function that is particularly useful during fine-tuning sonic details. Please note that these settings are **not** stored in the T-RackS 3 preset files or DAW session.

3.4 Preferences

figure 3.16

By clicking on the PREF button (figure 3.16) the T-RackS preferences window will be displayed (figure 3.17).

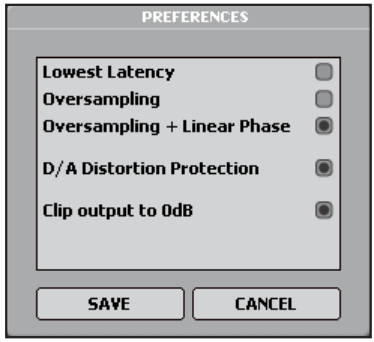


figure 3.17

- **Lowest Latency**: use this setting when you need T-RackS 3 to have the shortest possible latency. This setting is to be used, for example, when you're using T-RackS 3 to process a real-time recording monitor mix. In this mode the total T-RackS 3 latency is 132 samples.

- **Oversampling**: use this setting when you want to use oversampling. This delivers higher quality to all T-RackS 3 processors but increases latency to 1284 samples.

- **Oversampling + Linear Phase:** use this setting when the maximum audio quality is needed and high latency is not a problem (for example when mastering). The LINEAR PHASE button on T-RackS 3 Linear Phase Equalizer will only works with this setting ON. In this mode the T-RackS total latency is 19684 sample.

- **D/A Distortion Protection:** when mastering audio material at really hot levels there is a chance that playback devices like CD or MP3 players will distort the audio because of overload in their D/A conversion and analog stages, even if the original digital master is distorted at all. These overloads are appearing "between" samples because of excessive overshoots or just because the D/A and analog stages cannot keep up with the required headroom. Enable this to allow the T-RackS Brickwall Limiter to keep this phenomenon under control and avoid most of these potentially bad distortions. NOTE: this setting has no effect if the Brickwall Limiter module is not used **at the end** of the audio processing chain.

- **Clip Output to 0 dB:** use this option to have T-RackS 3 to limit at 0 dB the signal at the output of the processing chain by hard clipping. If this is unchecked the signal is allowed to go beyond the 0 dB digital level.

3.5 Info

figure 3.18

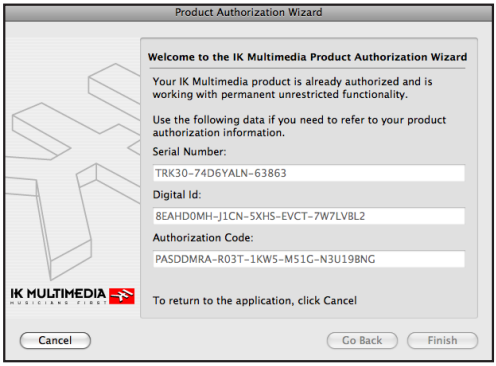
By clicking on the INFO button (figure 3.18) the T-RackS info panel will be displayed (figure 3.19). You will find the product name, its version number, and the related copyright notes.

INFO
T-RACKS 3
©1998-2008 IK Multimedia Production Srl.
Version 3.0
Created by the IK Multimedia team.
T-RackS® is a registered trademark of IK Multimedia. All other product names and trademarks are the property of their respective owners, which are in no way associated or affiliated with IK Multimedia. Product names are used solely for the purpose of identifying the specific products that were studied during IK Multimedia's sound model development and for describing certain types of tones produced with IK Multimedia's digital modeling technology. Use of these names does not imply any cooperation or endorsement.
IK Multimedia. Musicians First.
figure 3.19

3.6 Lock

figure 3.20

If you are running the software in demo mode, and you click on the Lock button (figure 3.20), the Product Authorization Wizard will appear. However, if you already registered and authorized your product, clicking on the Lock button will show you the product Serial Number, Digital ID, and Authorization Code (figure 3.21).


Product Authorization Wizard
Welcome to the IK Multimedia Product Authorization Wizard
Your IK Multimedia product is already authorized and is working with permanent unrestricted functionality.
Use the following data if you need to refer to your product authorization information.
Serial Number:
TRK30-74D6YALN-63863
Digital Id:
8EAHD0MH-J1CN-5XHS-EVCT-7W7LVBL2
Authorization Code:
PASDDMRA-R03T-1KW5-M51G-N3U19BNG
IK MULTIMEDIA
To return to the application, click Cancel
Cancel
Go Back
Finish
figure 3.21

3.7 General controls (standalone)

When launched in standalone mode T-RackS 3 interface will show the audio file player/editor at the bottom of the interface (figure 3.22).

figure 3.22

This part of the interface is used to load multiple audio files, and process them with T-RackS processors with various listening options as well as some useful editing features.

figure 3.23

To load audio files in the standalone application drag them over the interface or click on the LOAD button (figure 3.23). The file will appear in the AUDIO FILES browser and its waveform will appear on the waveform display panel. To select the audio file to be played simply click on it to select, the selected file will be highlighted in yellow. To remove an audio file from the browser select it and click on the REMOVE button (figure 3.23).

The types of files that can be loaded, played and processed from the standalone version of T-RackS are Wav, Aiff, Caf, Sd2, Mp3.

figure 3.24

Once a file is loaded you can use the transport buttons on the T-RackS 3 standalone bottom bar to play, stop and activate/deactivate the loop playback (figure 3.24).

A time counter will show the current playing position time.

A yellow PLAY CURSOR (figure 3.25) will be moving on the waveform during play. You can click anywhere in the waveform to set a different playback position, or you can click and roll on the COUNTER display for the same result.

figure 3.25

figure 3.26

You can also zoom the audio file using the +/- buttons of the waveform display to precisely select specific points of the audio file. The underneath scroll bar will allow to easily scroll your audio file time line (figure 3.26).

When the LOOP play button is enabled two LOOP POINTS yellow markers will appear on the waveform so you can drag them in your preferred listening positions, setting the loop points (figure 3.27).

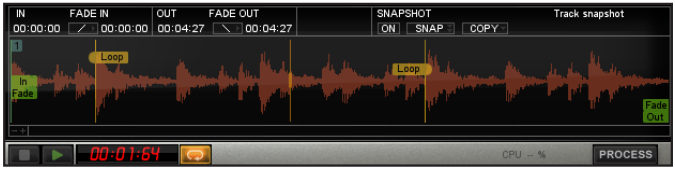


figure 3.27

You can apply FADE IN/OUT to your file by positioning the green FADE IN/OUT markers that appear on the waveform. By clicking on the IN and OUT markers you will set the IN/OUT points of your fade in/fade out and by moving the FADE markers of both you will indicate the fade in and out timing (figure 3.28).

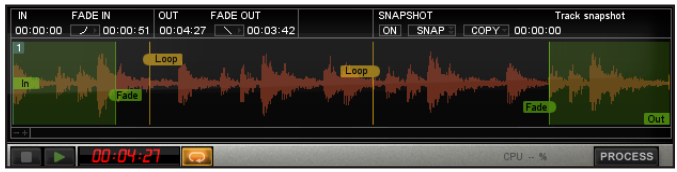


figure 3.28

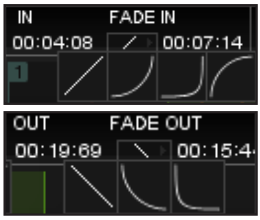


figure 3.29

The fade in/out areas will be highlighted in green. The precise fade in/out time will be displayed over the waveform in the fade in/out panel. In the panel you can also select the type of fade in/out curve by clicking on the curve icons and selecting the one you prefer among linear, exponential, logarithmic (fade in) and linear, logarithmic (fade out) (figure 3.29).

In T-RackS 3 standalone you can also use snapshots to apply different settings of T-RackS processors during play.

To insert a new settings SNAPSHOT simply change one or multiple parameters of your inserted processor chain and than click on the SNAP button. A snapshot marker will appear (figure 3.30).

figure 3.30

By default a SNAPSHOT marker number 1 is always present at the start of the audio file when the file is loaded in the player/editor, so when you take a snapshot for the first time this will be numbered as 2. The snapshot memorizes and applies the modified settings you have applied to your inserted processor chain. You can change the snapshot position by dragging it over the audio file. The active, selected snapshot has its number in white on its label, its number and time line position are indicated in the SNAPSHOT panel.

figure 3.31

Now if you click on the ON button in the SNAPSHOT panel (figure 3.31) and you play the file, as soon as the play cursor reaches the inserted snapshot, the processor chain will change its settings. You can take up to 9 different snapshot settings and apply them any time you want over the time line of

the audio file. A convenient COPY function is available so you can apply previous snapshots in other position of the audio file (for example to re-insert the same snapshot in the various chorus/verse parts of your song). Simply position the play cursor in the time line position where you want the new snapshot to be placed and click on the COPY pop up menu button, which will display the currently taken snapshots. Click on the number of the snapshot you want to insert to copy it in the new position (figure 3.32).

figure 3.32

figure 3.33

To delete snapshots simply click on the DELETE button (figure 3.33) in the SNAPSHOT panel after you have selected the snapshot that you want to delete.

Copied snapshots are always kept the same. This is very convenient when you're using, for example 3 snapshots #1 for all your verses and two #2 for all your chorus. Should you decide to retouch the choruses EQ a single retouch on a single chorus will affect all other ones (related to snapshot #2). For this example, if you prefer having “independent” choruses, just use individual snapshots without copying them.

If you want to temporarily “suspend” the snapshots automation just turn them OFF by clicking on the grey ON button (figure 3.31). Your previously saved snapshots automation will be restored when you'll enable it again.

Chapter 4 T-RackS 3 module processors

The new T-RackS 3 offer up to 9 Dynamics/EQ processors comprised of 3 new analog and vintage emulations (including models based on the Fairchild 670 and the Pultec EQP-1A) and 2 new digital processors as well the four classic, award-winning T-RackS processors.

4.1 Vintage Tube Compressor/Limiter model 670

figure 4.1

Based on the "Holy Grail" of compressors/limiters, the Fairchild® 670. With a faithful reproduction of every control (figure 4.1), this is an incredibly accurate model that captures every nuance of one of the best Fairchild units available.

Controls:

- **AGC:** sets the compressor channels mode. Set it to **Left/Right** for unlinked stereo (independent channels) operation. Set it to **Link** for linked stereo operation (both channels will have identical settings except for Input Gain, and the same amount of gain reduction will always be applied to both channels to ensure stereo image stability. Set it to **Lat/Vert** to have the compressor two channels to work on Mid and Side portions of the Stereo signal. With this mode you'll be able to process independently your Center (Lat) and Sides (Vert) image of the stereo program.

- **LEFT-LAT DC Threshold:** exactly like on the original unit, set it fully counterclockwise for maximum softness of the compression knee, set it fully clockwise for maximum hardness of the compression knee.

- **RIGHT-VERT:** same as LEFT-LAT DC Threshold, for Right channel.

- **LEFT-LAT TIME CONSTANT:** sets the compressors release time. Positions 1 from 4 are single time constant, from quick to slow, positions 5 and 6 are dual time constants and are especially useful for mixed stereo material.

- **RIGHT-VERT TIME CONSTANT:** same as LEFT-LAT TIME CONSTANT, for right channel.
- **LEFT CHANNEL INPUT GAIN:** sets the compressor input gain on Left channel. When no compression is happening set this knob to 10 for unity I/O gain.
- **RIGHT CHANNEL INPUT GAIN:** same as LEFT CHANNEL INPUT GAIN, for right channel.
- **LEFT-LAT THRESHOLD:** sets the amount of compression. Fully counterclockwise means no compression, fully clockwise give the maximum possible amount of compression for that signal.
- **RIGHT-VERT THRESHOLD:** same as LEFT-LAT THRESHOLD, for right channel.
- **IN/OUT/GR METERS:** when set to IN the VU meters will indicate the audio level at the inputs of the compressor. When set to OUT they will indicate the audio level at the outputs of the compressor. The most important indication is GR (default) where the amount of compression in dB is shown. Always use the GR position when dialing the desired compression amount with THRESHOLD knobs.
- **OUTPUT:** sets the output level, within a +/- 15 dB range.
- **BYPASS:** completely bypasses the whole unit.
- **RESET:** brings the compressor back to its default state where a compression of around 2 dB is happening on moderate level mixes. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

4.2 Tube Program Equalizer model EQP-1A

figure 4.2

Based on what is universally known as one of the best and most musical

program EQs ever made, the Pultec EQP-1A. Extremely accurate modeling (figure 4.2) of a two real world units, known to "have the sound", with sonic performance that is indistinguishable from the originals. Stereo or MS operation.

Controls:

- **LOW FREQUENCY:** sets the frequency intervention point for the low shelving boost and atten filters: 20, 30, 60 or 100 Hz. Please note that because the Pultec's original circuit was based on a passive equalization network the boost and atten filters will not cover the same frequency span, and will not cancel one each other if set identically.
- **LOW FREQUENCY BOOST:** applies a low frequencies boost with a shelving shape on the selected frequency range. Set it to 0 for no boost, 10 for max boost.
- **LOW FREQUENCY ATTEN:** applies a low frequencies attenuation with a shelving shape on the selected frequency range. Set it to 0 for no attenuation, 10 for max attenuation.
- **BANDWIDTH:** widens (clockwise position) or narrows (counterclockwise position) the range of frequencies covered by the high frequency bell curve. This control does not affect the sound of the low frequency filter nor the one of the high frequency attenuation.
- **HIGH FREQUENCY:** sets the center frequency of the high frequency bell boost filter: 3, 4, 5, 8, 10, 12, 16 kHz. (The high frequency boost and attenuation filter have independent frequency settings).
- **HIGH FREQUENCY BOOST:** applies high frequency boost with a bell shape, centered on the selected frequency. Set it to 0 for no boost, 10 for max boost.
- **HIGH FREQUENCY ATTEN:** attenuate high frequencies with a shelving shape starting from the selected value on ATTEN SEL. Set it to 0 for no attenuation, 10 for max attenuation.
- **ATTEN SEL:** sets the frequency intervention point for the high frequency attenuation filter: 5, 10 or 20 kHz.
- **OUTPUT:** sets the global equalizer gain, from -15 to + 15 dB.
- **ON/OFF:** completely bypasses the unit when on the OFF position.
- **RESET:** resets the equalizer to its initial, flat, state.
- **L=R:** linked channels mode. Set it this way when you want to control both left and right channels at the same time, by applying the exact same equalization to them.

- **L/R:** click on L or R icons when you want to tweak the equalization independently on the Left or Right channels.

- **M/S:** this option uses a Mid-Side matrix to insert the equalizers on your processing chain. This means that you will be able to equalize independently the Center or the Sides of your stereo program. The L and R icons will be replaced by M and S when in this mode. Click on M to equalize the Center (Mid) of your stereo image, or on S to equalize the Sides.

4.3 Opto Compressor

figure 4.3

Optical compression has a special sonic character that true audiophiles appreciate. This analog-modeled module (figure 4.3) faithfully recreates that particular (and extremely musical) "movement" that characterizes only the best opto compressors.

Controls:

- **INPUT:** sets the input level of the compressor, from -24 to +24 dB.

- **RATIO:** sets the Ratio of the compressor. Use low values for gentle and invisible mastering applications and higher values for more powerful and obvious compression. Ratio range is from 1:1 (no compression) to 30:1 (almost limiting).

- **ATTACK:** sets the compressor attack time from 0 to 50 ms. Extremely fast attack values could deliver slight distortion on certain sounds.

- **RELEASE:** sets the compressor release time from 30 ms to 5 seconds.

- **COMPRESSION:** sets the amount of compression that is applied to the signal. Fully counterclockwise means no compression, fully clockwise means full compression.

- **IN/OUT/GR METERS:** when set to IN the VU meters will indicate the

audio level at the inputs of the compressor. When set to OUT they will indicate the audio level at the outputs of the compressor. The most important indication is GR (default) where the amount of compression in dB is shown. Always use the GR position when dialing in the desired compression amount in with the COMPRESSION knob.

- **OUTPUT:** sets the compressor output level within a range of +/- 24 dB.
- **BYPASS:** completely bypasses the opto compressor module.
- **RESET:** brings the compressor back to its default state where a compression of around 2 dB is happening on moderate level mixes. Clicking on this button again will bring your settings back, in case you hit reset by mistake.
- **L=R:** the same settings will be applied to L and R compressors. The L and R compression will be exactly the same if the LINK button is ON, to avoid stereo image shifts.
- **L/R:** click on L or R icons if you want to dial in specific compression setting for L and R channels, independently.
- **M/S:** this option uses a Mid-Side matrix to insert the stereo compressor on your processing chain. This means that you will be able to compress independently the Center or the Sides of your stereo program. The L and R icons will be replaced by M and S when in this mode. Click on M to set the compression for the Center (Mid) of your stereo image, or on S to set compression for the Sides.

4.4 Intelligent, multi-algorithm Brickwall Limiter

figure 4.4

Brickwall Limiter (figure 4.4) that can really make your masters loud without squashing them to a lifeless sound. Accurate and transparent, digital brickwall limiting doesn't get any better than this. Selectable algorithms allow you to match the best limiting style for each program type.

IMPORTANT: This is the processor that should be always used at the end of your T-RackS mastering chain because it has special features to keep the final output level of your master under control.

The **"D/A Distortion Protection"** option that can be enabled from the Preferences panel does NOT have the proper effect when this module is not used at the end of the processing chain.

Controls:

- **GAIN REDUCTION:** shows the amount of limiting that is happening in the gain reduction element of the limiter. Limiting obtained by saturation or clipping is NOT shown by this meter.

- **INPUT:** sets the input level for the limiter, and therefore the volume increase the limiter will give.

- **ATTACK TIME:** sets the limiter attack time. Depending on how much limiting you're applying it may be necessary to increase this value to preserve percussive material's sense of impact.

- **RELEASE TIME:** sets the limiter release time. The longer the release time the softer the limiter will be. Short and very short release times will make the limiter more suitable for rock, R&B, pop etc, while longer release times will make the limiter more suitable for music that is generally mastered quieter, like jazz, classic, fusion etc.

- **STYLE:** sets the style the limiter will use. Options are:
  - **Clean:** this is the cleanest and most transparent style, useful for genres where the complete absence of distortion is a must.
  - **Advanced 1, 2, 3, 4**: these styles uses a "mix" between warm and smooth saturation and digital limiting. All offer more punch and color than "Clean".
  - **Sat 1, 2, 3**: these styles use various forms of saturation as limiting. The Gain Reduction meter will not show reduction because the gain reduction element is not working on these styles.
  - **Clipping**: straight digital 0 dBFS clipping, no gain reduction shown.

- **OUTPUT CEILING:** sets the top level the audio will never be allowed to exceed. Typically set to -0.1 or 0.2 dB. If **"D/A Distortion Protection"** is selected in the Preferences this can be left to 0 dB.

- **OUTPUT:** peak indication of the limiter output audio level.

- **BYPASS:** completely bypasses the Brickwall limiter.

- **RESET:** brings the limiter back to its default state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

- **L=R:** click on the L or R icons if you want to tweak the limiter's L or R channels independently.

4.5 High precision, high definition Linear Phase Equalizer

figure 4.5

An accurate, high definition, high precision EQ (figure 4.5) that can be trusted for delicate Mastering tasks with 6 completely identical bands that can be set to all available filter types and that can span the whole spectrum range (any kind of overlap is possible). Switchable between minimum and linear phase characteristics. Stereo or MS operation.

Controls:

- **GAIN/RES 1-6:** sets the gain from -15 to +15 dB when the band is set to Peaking or Shelving. When the band is set to High or Low pass filters this knob will control the resonance.
- **FREQ 1-6:** sets the center or cutoff frequency for the band, all bands can span from 10 Hz to 20 kHz.
- **Q 1-6:** sets the bandwidth of the Peaking filters, Q ranges from 0.2 to 20. When bands are set to Shelving this knob will set the shape of the shelving filter from gentle to steep and resonant, spanning from 0.2 to 3.
- **BAND ON/OFF:** each band can be turned On or Off independently. All bands are Off at startup. When the band is ON the button is green.

figure 4.6

- **BAND FILTER TYPE:** each band can be set to work as a Peaking filter (default for bands from 2 to 5), Shelving filters (defaults for bands 1 and 6) and high or low pass filers (figure 4.6).
- **OUTPUT:** sets the equalizer output level, from -15 to +15 dB.
- **OUTPUT METER:** peak meter for the equalizer output audio signal.

- **LINEAR PHASE:** sets the phase characteristic of the equalizer. When Off the equalizer performs with minimum phase characteristics, when On the equalizer is completely linear phase. IMPORTANT: LINEAR PHASE can be activated only if the "Oversampling + Linear Phase" option in preferences is checked.

- **CURVE DISPLAY:** this display shows the resulting equalization curve for both channels. Individual bands EQ points can be dragged to set Gain and Frequency points without using the equalizer knobs.

- **BYPASS:** completely bypasses the whole equalizer.

- **RESET:** brings the equalizer back to its default, flat, state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

- **L=R:** linked channels mode. Set it this way when you want to control both left and right channels at the same time, by applying the exact same equalization to them.

- **L/R:** click on L or R icons when you want to tweak the equalization independently on the Left or Right channels. Left channel curve will be displayed in green, right channel in red.

- **M/S:** this option uses a Mid-Side matrix to insert the equalizers on your processing chain. This means that you will be able to equalize independently the Center or the Sides of your stereo program. The L and R icons will be replaced by M and S when in this mode. Click on M to equalize the Center (Mid) of your stereo image, or on S to equalize the Sides.

4.6 Classic T-RackS Compressor

figure 4.7

The T-RackS classic tube compressor (figure 4.7) emulates that classic, analog, hi-end vintage gear used in mastering applications. This will give you that big, warm sound typical of highly acclaimed hardware devices. This

compressor has some unique features that make it very flexible but always very musical and creative.

Controls:

- **SIDECHAIN HPF:** this control adds a high pass filter to the detector stage of the compressor. The detector stage is where the compressor analyzes the incoming signal and determine how gain reduction must be applied. This variable high pass filter prevents, when turned up, that compression pumping effect mainly caused by the material's low end content. The higher this knob the softer and more inaudible the compression character will be. At the minimum or at very low settings the compression will be much more aggressive and noticeable. Use lower settings when you want to "hear" the compression effect and use higher values for a gentle compression, as you may want in acoustic mixes.

- **ATTACK TIME:** adjust this control to change the speed of compression in the attack phase. With higher values, transients will pass unaltered through the compressor. With lower values the gain reduction will respond quicker and transients will be more affected. Value range is from 15 ms to 80 ms. While adjusting, check the release time value above the knob to see the attack time value you're setting.

- **RATIO:** use this control to define the strength of the compression. Lower values give a gentler and less noticeable compression effect, more suitable for 2-tracks mixes and acoustic sounds. Higher values give a more effective compression effect with, at times, all the side-effects you might expect from a over-compression process. These effects are sometimes desirable, that's why T-RackS's compressor ratio control sweeps up to a value of 5. If you are not sure which ratio control value is suitable for your needs, start setting this control at 2 - 3.

- **RELEASE TIME:** adjust this control to change the speed of compression in the release phase. Using higher values, the recovery time will be longer and the compression will be less noticeable. Using lower values, the recovery time will be shorter and the average loudness will be higher. Value range is from 70 ms to 1.5 s.

- **INPUT DRIVE:** this knob controls the amount of signal that drives the compressor's input. This is no threshold point leveller so the amount of compression is determined by the strength of input signal. Range is from -18 dB to +18 dB.

- **STEREO ENHANCEMENT:** this control will affect the stereo imaging of your mix. Turning it up you will increase the stereo width and vice versa. While adjusting this knob check the value you're setting (in dB). Value range is from -5 to +5 dB, where 0 dB has no effect.

- **GAIN REDUCTION VU:** this analog VU shows the amount of Gain reduction in dB. When compression does not occur, the VU shows 0

dB. When compression is affecting the signal the VU indicates the level of compression in dB.

- **OUTPUT:** this knob controls the compressor output level.
- **BYPASS:** this switch allows you to bypass the Compressor module. When the LED is lit, the Compressor is ON. To turn OFF the Compressor module, click the switch so that the LED is OFF.
- **RESET:** brings the compressor back to its default state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

4.7 Classic T-RackS Multi-band Limiter

figure 4.8

This three-band peak limiter (figure 4.8) can make the mix even louder by reducing unwanted peaks. The peak limiting action is made separately on the three bands (low, mid, high). You will have a very loud master, without clipping, though as with any of these processors, use care not to over-do it. Leaving the output knob set to 0 dB means that the limiter output signal can't go beyond –0.05 dBfs.

Controls:

- **SINGLE BAND LEVEL:** these 3 knobs set the level (volume) of the three bands. This is very useful to get the correct level of each band after the limiting. Use this as a very broad tone control tool on the mix. This is a global, three band, equalizer too.
- **SINGLE BAND THRESHOLD:** these 3 knobs set the limiting amount over the individual band. Lowering the value the threshold will be lower and the limiting more frequent. Raising the threshold will make the limiter compress that band less. You can check this by looking at the analog VU on the right, this shows the average compression of the three bands.

- **CROSS OVER POINTS:** these two knobs set the two frequency split points, the low-mid split and the mid-high split. The default positions are fine in general but you can experiment with different settings. For example lower the low-mid point to, say, 70 Hz to only limit and tighten-up the low end.

- **RELEASE TIME:** adjust this control to change the speed of limiting in the release phase. This is the amount of time the limiter will take to return to normal gain after a peak limiting has occurred. While adjusting, check the current Limiter numeric display to see the release time you're setting. Value range is from 60 ms to 1.6 seconds.

- **INPUT DRIVE:** this knob controls the amount of signal that drives the multiband limiter input. Unlike the compressor module, this one has an exact threshold point where it starts to limit the signal. If you drive more signal through the limiter input, more peaks will be limited and the sound will be louder. If you want to preserve more peaks, set this control to a lower value. Values range is from -10 dB to + 15 dB. While adjusting Input Drive, check the values (in dB) by looking at the value above the Drive knob.

- **OVERLOAD:** this control will affect the way Limiter reduces peaks. Setting this knob to a lower value will result in more frequent "pure" gain reduction by the limiter. Setting this knob to a higher value will result in less frequent gain reduction, but in more frequent clipping. Obviously setting this control at higher values will give you more loudness, but more clipping across the 0 dB level.

- **GAIN REDUCTION VU:** this analog VU shows the amount of Gain reduction in dB. When limiting does not occur the VU shows 0 dB. When limiting is affecting the signal, the VU indicates the level of limiting in dB. This VU shows the average value of limiting by all three spectral bands.

- **OUTPUT:** this knob controls the limiter output level.

- **BYPASS:** this switch allows you to bypass the Limiter module. When the LED is lit, the Limiter is ON. To turn OFF the Limiter module, click the switch so that the LED is OFF.

- **RESET:** brings the limiter back to its default state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

4.8 Classic T-RackS Clipper

figure 4.9

This clipping stage module **(figure 4.9)** is useful every time you need to cut out all the peaks that keep the average level of a signal too low. Peak clipping is very often used in mastering because it's in most cases more transparent than peak limiting.

Controls:

- **GAIN:** the Gain control adjusts the pre-level of this clipping stage. This is the level of the signal injected into the clipper and will determine the quantity of saturation applied to the audio. TIP: leave the OUTPUT now at 0 dB because doing this the clipper limiter will never go beyond –0.05 dBfs, regardless of the Gain level you dial in

- **GAIN REDUCTION METER:** shows instant by instant the amount of signal that is attenuated by the clipping/saturation effect.

- **SLOPE:** the clipping shape of this stage is adjustable. It's continuously variable from a straight digital hard clip (fully clockwise) to ultra soft non-clipping mode (fully counterclockwise). Depending on music styles, the clipping can be less noticeable either with softer or harder shapes; that's why this control is continuously adjustable. Only your ears can detect the optimal clipping shape for the piece of music you're mastering. If you are unsure, start with a middle value, say 3 dB, as a starting point.

- **SAT:** when the signal is in the non-linear zone (saturation) the SAT LED lights up.

- **OUTPUT:** this is internally calibrated to ensure that the output of the clipper will never overload. This means that, regardless the input level of the clipper and the position of the GAIN knob, you'll never get samples over 0dB out from this module because the internal clipping has a –0.05 dBfs ceiling. This is only valid if the OUTPUT knob is set at 0 dB.

- **OUTPUT METER:** shows the peak output level on the same bar for L and R channels, L is on the top and R on the bottom.
- **OVER:** these two LEDs, separate for left and right channels, light up ONLY when a digital overload at the clipper outputs has occurred. In theory they should never turn on. Adjust the OUTPUT control to ensure they stay off, with as high a level as possible.
- **BYPASS:** this completely bypasses the Clipper module.
- **RESET:** brings the Clipper back to its default state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.

4.9 Classic T-RackS Equalizer

figure 4.10

T-RackS Classic Equalizer **(figure 4.10)** consists of a high quality six-band parametric EQ, specially designed to achieve high-end performance in a mastering environment. It consists of:

1) 4th order High-pass filter, from 16 Hz to 5.3 kHz.
2) Low shelving type filter, from 30 Hz to 200 Hz.
3) Low-mid peaking type filter, from 33 Hz to 5.4 kHz, variable Q.
4) High-mid peaking type filter, from 200 Hz to 17.5 kHz, variable Q.
5) High shelving type filter, from 750 Hz to 8.5 kHz.
6) 4th order Low-pass filter, from 200 Hz to 18 kHz.

Controls:

- **LOW CUT band ON/OFF:** use this button to turn On and Off the band filter. When the filter is active the button is highlighted in yellow.
- **LOW CUT:** the knob adjusts this frequency of the high pass filter. Sweep range is from 16 Hz to 5.3 kHz.
- **LOW band ON/OFF:** use this button to turn the filter On and Off. When the filter is active the button is highlighted in yellow.

- **LOW FREQ:** the knob adjusts the frequency range of low-shelving filter. All frequencies up to this value will be boosted or reduced. You can set the cutoff frequency anywhere from 30 Hz to 200 Hz.
- **LOW GAIN:** use this control to boost or reduce the level of this band. The range is from -15 dB to +15 dB.
- **LOW MID band on/off:** use this button to turn the filter On and Off. When the filter is active the button is highlighted in yellow.
- **LOW MID FREQ:** this knob adjusts the center frequency of the Low-Mid peaking filter. Range is 33 Hz to 5.4 kHz.
- **LOW MID GAIN:** use this control to boost or reduce the effect of this filter. Range is from -15 dB to 15 dB.
- **LOW MID Q:** sets the bandwidth of the peaking filter, from 0.2 (broad) to 20 (sharp).
- **HI MID band on/off:** use this button to turn the filter On and Off. When the filter is active the button is highlighted in yellow.
- **HI MID FREQ:** this knob adjusts the center frequency of the Hi-Mid peaking filter. Range is from 750 Hz to 17.5 kHz.
- **HI MID GAIN:** use this control to boost or reduce the effect of this filter. Look at the value below the knob to check the value (in dB) you're setting. The range is from -15 dB to 15 dB.
- **HI MID Q:** sets the bandwidth of the peaking filter, from 0.2 (broad) to 20 (sharp).
- **HI band ON/OFF:** use this button to turn the filter On and Off. When the filter is active the button is highlighted in yellow.
- **HI FREQ:** this knob adjusts the frequency range of the high shelving filter. Range is from 200 to 18 kHz.
- **HI GAIN:** use this control to boost or reduce the effect of this filter. Its range is from -15 dB to +15 dB.
- **HI CUT band ON/OFF:** use this button to turn On and Off the band filter. When the filter is active the button is highlighted in yellow.
- **HI CUT:** this knob adjusts the cut-off frequency of the lo-pass filter. Range is from 200 to 18 kHz.
- **OUTPUT:** sets the equalizer output level from -15 to +15 dB.
- **CURVE DISPLAY:** this display shows the resulting equalization curve

for both channels. Individual bands EQ points can be dragged to set Gain and Frequency points without using the equalizer knobs.

- **BYPASS:** completely bypasses the equalizer.
- **RESET:** brings the Equalizer back to its default, flat, state. Clicking on this button again will bring your settings back, in case you hit reset by mistake.
- **L=R:** linked channels mode. Set it this way when you want to control both left and right channels at the same time, by applying the exact same equalization to them.
- **L/R:** click on L or R icons when you want to tweak the equalization independently on the Left or Right channels. Left channel curve will be displayed in green, right channel in white.
- **M/S:** this option uses a Mid-Side matrix to insert the equalizers on your processing chain. This means that you will be able to equalize independently the Center or the Sides of your stereo program. The L and R icons will be replaced by M and S when in this mode. Click on M to equalize the Center (Mid) of your stereo image, or on S to equalize the Sides.

Chapter 5 Metering

T-RackS 3 includes a new high quality, high precision, complete metering section. This includes:

- A precision three-scale Peak meter with accurate sample indicators and real digital "Over" indication.
- Real Perceived Loudness meter.
- Phase scope, with options to match the style and indication you're used to
- Phase correlation
- Spectrum Analyzer with Peak, RMS and Averaging indications.
- RMS meter
- Loudness and RMS metering "optimal" zones' indication, selectable by genre and style.

5.1 Peak Meter

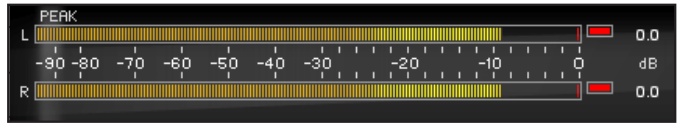


figure 5.1

This is a precision sample-accurate peak meter that shows the instantaneous audio peak level, with peak hold and over indication.

Numerical values for peak hold values are shown at the right of the bargraph.

figure 5.2

The peak meter can work on three scales, selectable by clicking on the Settings button (figure 5.2) and selecting the Peak Meter section (figure 5.3):

figure 5.3

- **-90 .. 0 dB:** this scale is very wide and is good for general purpose peak level representation.
- **-50 .. +5 dB:** this scale has reduced range on low levels and can be useful to monitor "higher than 0dB" signals, as it goes up to +5 dB.
- **-60 .. 0 dB:** this scale has a "zoom" at the high portion of the scale so that the upper 8 dB spans over the last half of the scale. This is very useful to keep the top of the available headroom under control.

OVER indicators: these two RED light will turn on only when more than 3 consecutive 0 dB full scale samples are present on the audio. If possible always avoid having these indicators to turn on during the whole duration of the audio file you're processing. You can obtain this by using the Brickwall peak limiter and lowering the Ceiling value to -0.1 or -0.2 dB or by enabling the **D/A Distortion Protection** from preferences.

5.4 Perceived Loudness

figure 5.4

figure 5.5

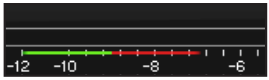


figure 5.6

This is a very valuable tool not commonly found in software applications. Its main purpose is to give reliable information on the effective "sense of loudness" a song or audio in general delivers to the listener. It works by combining accurate averaging and frequency weighting on the program, and can be trusted to deliver accurate information on how loud the song will appear.

NOTE: both Left and Right channels are combined into the same display.

Loudness Suggested area: click on the Settings button **(figure 5.5)**, Loudness Suggestion, and select the genre which best describes the music you're working on from the menu.

The colored line on the Perceived Loudness menu **(figure 5.6)** will move.

This is the area where most commercial production are peaking on **their most loud passages**. The green area indicates where **most loud passages should normally peak**, while red area indicates where **most loud passages are peaking in extreme conditions** or on very loud masters.

5.3 RMS

This is a standard precision RMS meter **(figure 5.7)** that gives valuable information about the "power" of the audio signal.

figure 5.7

Typical loud masters are peaking on the RMS meter at -9, even -8 dB, but this does not always mean "high loudness" because the RMS meter is flat in frequency response, therefore can be driven very high by programs where there is a very strong low frequency content. The usage of the Perceived Loudness Meter together with RMS will give you the best picture.

NOTE: both Left and Right channels are combined into the same display.

A very good practice is, before you start working on your project, loading in T-RackS 3 some of your preferred reference albums (with no processors open of course) and check where both Loudness and RMS meters are peaking and how they relate one each other on various songs passages. This will give you a very useful reference to correctly set the overall level of your masters.

5.4 Phase

figure 5.8

figure 5.9

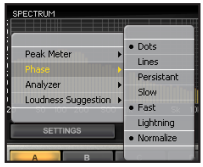


figure 5.10

figure 5.11

The Phase scope included in T-RackS 3 (figure 5.8) behaves very closely to those you usually find on high end metering devices or on consoles. The fact that it reacts 40-50 times faster than conventional "plug-in" phase scopes gives you much more useful information.

Left and Right channels samples are shown on a X/Y scope so that signals present on a channel only are displayed as 45 degrees tilted lines, a mono signal is displayed as a vertical straight line and a completely out of phase signal as an horizontal line.

Then the stereo master is pushed very high you'll notice a transformation of the picture in a square, with sharp edges (figure 5.9). Analyzing your preferred albums and reference against this characteristic will help you understanding how much this can be pushed.

Settings: click on Settings (figure 5.10), Phase to have access to the Phase Scope settings. You can set the Phase Scope to display samples as Dots or Lines and select various levels for the display speed. By enabling the Normalize function, you'll make the scope display with the same width signals of any level, even very low ones (default).

5.5 Correlation

The phase correlator (figure 5.11) is a very simple meter that shows phase correlation between the two Left and Right channels on a scale from -1 to 1. A mono signal will show +1, a completely out of phase signal will show -1.

In normal conditions music will continuously move between +1 and 0. Keep in mind that passages that stays between 0 and -1 will be perceived significantly lower when played in mono.

5.6 Spectrum Analyzer

This is a 1/6 octave FFT spectrum analyzer that can be configured to give various kind of information (figure 5.12).

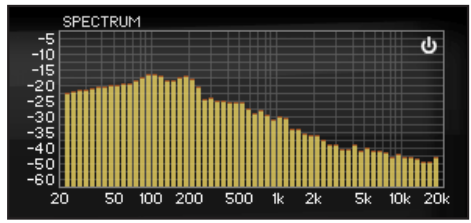


figure 5.12

When set to react fast or relatively fast (peak or RMS) it is very useful to identify portions of the spectrum that need retouching with the equalizers, and when set to react slowly (Average mode) it is very useful to keep the overall balance of the audio you're working on under control.

figure 5.13

Settings: click on Settings **(figure 5.13)**, Analyzer to have access to the Spectrum analyzer settings.

- **-90 .. 0 dB:** vertical scale of the Spectrum Analyzer goes from -90 to 0 dB (wider scale).
- **-60 .. 0 dB:** vertical scale of the Spectrum Analyzer goes from -60 to 0 dB (narrower scale).
- **Curve / Bars:** sets how the curve is drawn, vertical yellow bars **(figure 5.12)** or 1/6 octave segmented curve.
- **Tilt value, from 0 to 9 dB:** use this value to set the tilt you prefer when working on the material you're familiar with. Higher values will make the curve rise with frequency, the 0 dB value will make the analyzer flat, showing white noise as an horizontal line.
- **Peak:** makes the analyzer have instantaneous rise time and adjustable fall time. To adjust peak mode fall time select one of the three Release values, 250, 500 or 1000 ms. This is the preferred mode when the analyzer is used to get fast feedback to identify frequency areas that are having issues or that you need to follow quickly while music goes.
- **RMS:** similar to peak, makes the analyzer to react with an RMS law, making it slower and less sensitive to very short peaks.
- **Average:** this is the slower indication this analyzer has and it is very useful to weight the overall balance of audio material. The analyzer takes 30 seconds to get to the average and after this time the visualization will stabilize to a very easy to read display. The average will reset when the audio will be stopped, or when clicking on the spectrum analyzer display.
- **L+R, L, R:** sets what channels are displayed on the spectrum analyzer. L displays only left channel audio, R only right, L+R will display channels average.
- **FFT points, 2k, 4k, 8k, 16k:** sets the resolution of the analyzer. Use high values (8k or 16k) if you need high accuracy on the low frequencies.
- **Show Peaks:** enable this to turn on Peak hold indications on the spectrum analyzer display.

Chapter 6 Automation

6.1 Automating parameters

T-RackS 3 has lots of parameters, more than what typically audio sequencers (DAWs) can support. For this reason, T-RackS 3 has its own internal Automation Parameter assignment window (figure 6.1) that is launched by clicking on the AUTO button.

figure 6.1

The Automation window includes two panes. The Left Pane is called Plug-in, and the Right Pane is called DAW Automation.

6.2 Left Pane

The Left Pane displays T-RackS slot and processor module parameters.

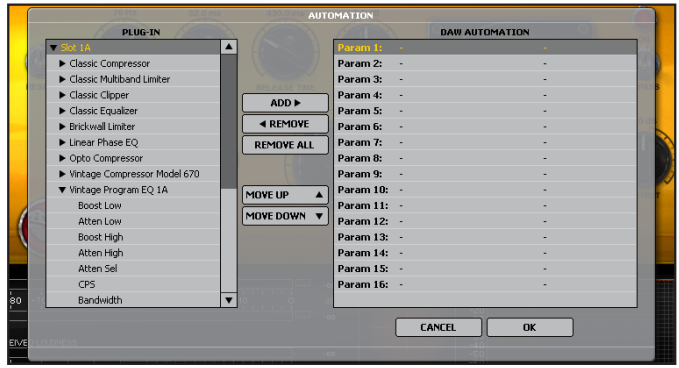


figure 6.2

On the Left Pane, you will be able to select which T-RackS parameter you are going to assign to Automation. Because of T-RackS audio chain, each slot is listed separately 1 to 4 A/B and 5 to 8 (figure 6.2). You can assign any of the T-RackS modules in the automation slot as well as every parameter of each module.

6.3 Right Pane

The Right Pane lists the 16 automation parameters that are declared to the DAW (figure 6.2). These parameters names (Param 1 to Param 16) are fixed because most DAWs do not support automation parameter name changes while the plug-in is open. Through the Right Pane, you will be able to select which DAW Automation parameter # you're going to assign to the T-RackS parameter previously selected on the Left pane. For example, if you selected a the T-RackS Classic Compressor, Attack Time on the Left pane and then click ADD, the Right Pane will display:

Param 1: Classic Compressor, Attack Time (figure 6.3).

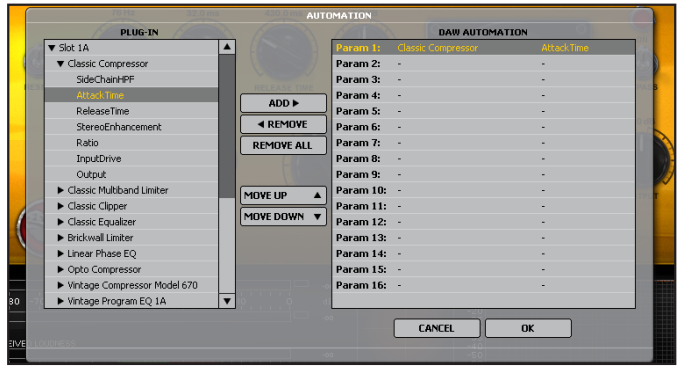


figure 6.3

You can use the same procedure to assign the remaining automation parameters. You can remove single parameter assignment with the REMOVE button, or remove them all with the REMOVE ALL button.

You can also swap DAW automation parameters with the MOVE UP, MOVE DOWN buttons.

Clicking OK will save and close the Automation window. The automation assignment map will be stored and restored to and from the session you're working on.

When working with multiple instances of T-RackS plug-in, each T-RackS instance is independent from the others and can have different Automation assignments setup. This means that saving your DAW session, will save each the automation setup for each T-RackS instance.

Chapter 7 Mastering tips

7.1 Introduction

Mastering is the final stage of processing made on a group of stereo mixes before going to press on audio CDs, movie soundtracks, multimedia soundtracks, MP3 files and so on. Its purpose is to obtain the maximum possible sound quality from the original mixes by "sweetening" it with equalization, compression and limiting, with the aim of letting the music shine as much as possible in all its nuances and potentially enhancing the original musical production aims and perspective.

Furthermore, mastering is essential to balance and create a pleasing continuity from one track to the next of a CD, for example.

It is extremely important to work with the best possible speakers in a room that sounds good because this is the final stage where you'll have to make decisions on the overall songs balance, and it's an extremely delicate process (see paragraph 7.9).

If you have to process the audio file with other effects like reverbs, stereo image corrections, phase coherency adjustments, spectral enhancers, and so-on, be sure to do this before mastering with T-RackS. **T-RackS should always be the last processing pass in the audio production work-flow.**

7.2 T-RackS 3 chain setup tips

There are no fundamental rules to be respected in the order to lay down processors on the T-RackS 3 chain. You can start analyzing the T-RackS factory presets to discover how typical mastering chains are done, and you can start experimenting your own setups later on.

Something that should always be considered as a rule is **placing a "finalization" processor like the T-RackS 3 Brickwall Limiter or the T-RackS Classic Multiband Limiter at the very end of the chain.** This will allow you to keep the final level of your master under control.

Typically equalizers are placed before dynamics, but this is not an absolute rule by any means.

7.3 Comparing original mixes with the T-RackS processed master

During your work with T-RackS you can easily compare the sound of the processed version with the original one. T-RackS allows for a comparison that is not misled by the volume increase that is typical of mastering. To do that simply press the COMPARE button and use the ON - OFF button to compare the original mix with the processed version while adjusting (lowering)

the level of the processed one with the small level knob on the right. When the comparison is done just click on the COMPARE button again to leave this feature and go back to normal work.

T-RackS 3 remembers the level settings on the compare function so that you'll find it as you saved it for the project.

Comparing with the original material plays a key role in your mastering process. It will allow you do evaluate the sound change given by the mastering chain and setup without being misled by the volume increase.

This is very important to avoid making changes on the audio that are not really needed or even worse that are damaging music. So remember, during your work, to often compare your mastered version with the original mix at the same volume to be really able to evaluate the effects of the processors you used.

7.4 Loudness

Nowadays everybody wants to make louder and louder masters! T-RackS 3 allows for extremely loud, clean and detailed masters. But be aware that music needs to have its own dynamics respected as much as possible and that, even if good loud masters are possible, there is a limit that should never be exceeded.

T-RackS gives a good hint on these limits with Perceived Loudness and RMS meters, but it is fundamental to always remember that only your ears and experience will tell if the level is fine or not.

7.5 Simple mastering chain

This is great starting chain (figure 7.1) to start with T-RackS 3:

figure 7.1

It includes the Classic T-RackS EQ, Classic T-RackS Compressor, Classic T-RackS Limiter and at the end of the chain Classic T-RackS Clipper.

For Rock, Pop, etc.. start with 2 dB of compression on the Compressor, another 1 - 2 on the Limiter and maybe gain a few dBs on the clipper as well.

For a more straight and close to the original sound you can remove the Multiband Limiter from this chain and just use the EQ, Compressor and Clipper.

7.6 Advanced mastering chain

The new high end processors included in T-RackS 3 like Vintage Compressor Model 670, Linear Phase Equalizer, Brickwall Limiter, Opto Compressor, and the EQ-1A Tube Vintage Program EQ, allow the highest versatility during mastering. Think to these modules as tools in your gear arsenal to be chosen from depending on the music you're working on, on your taste, etc. Feel free to experiment with all combinations of processors on all kind of audio material, and you'll find very good results!

This (figure 7.2) is a very good starting chain for stereo Mastering with T-RackS 3 new processors if you want an extremely transparent and pure processing path:

figure 7.2

It includes the Linear Phase Equalizer, Opto Compressor and Brickwall peak limiter. It's a very transparent chain that will add very little coloration and will respect the original nuances and timbral characteristic of the music as much as possible, even while giving you all the tools to master the music properly.

Experimenting with more vintage characterized sounds, add thickness and warmth, like with this chain (figure 7.3).

figure 7.3

This includes the Linear Phase Equalizer, Vintage Compressor model 670, Vintage Program EQ1A and the Brickwall Limiter at the end, that could eventually be replaced by the Classic T-RackS Clipper.

Two Compressors: you can **use two compressors in the chain if you want to give more consistency to levels** without having to push too much one single compressor. To do that we suggest you use a Vintage Compressor model 670 with a very slow Time Constant, like 3 or 4 applying 2 dB of compression Max, followed by an Opto Compressor set to respond very quickly, with short attack and release times, applying 1 or 2 dB of compression max.

Parallel Compression: you may like the character and musical feel that a compressor can give when it's pushed heavily, but it can be too much for mastering, resulting in an overcompressed, somehow lifeless track. A good trick in this case is to insert in parallel with the compressor a non compressing device or another compressor set to attenuate way less, if not at all. Use, for example, slot 1A and 1B for two compressors, one set to compress 5 or 6 dB, the other set to compress 0.5 dB max.

We suggest to always use linear phase equalization where you have to boost the low end in a mix that is already very dense, or when you need to tweak very sensitive midrange zones where lots of instruments are playing overlapping with vocals.

7.7 T-RackS 3 models tips

7.7.1 Vintage Compressor Model 670

figure 7.4

This compressor (figure 7.4) is magic. You will immediately notice that even with just 1 or 2 dB of compression, or even less, the music truly shines. Full digital recording and mixes will get enormous benefits from the warmth and thickness this unit will deliver.

There are various ways you can work with this device and get a large range of results from it. For example, since the modeling of the amplifiers stage in this compressor is very detailed, you can experiment with various levels of Input Gain, compensating for more or less compression with the Threshold knobs, and for higher or lower output level with Output knob. Set the input level to -16 in order to get 2 - 3 dB of compression, and rise the Output level to get the level you want. This will result in a very transparent compression, with a bit of nice coloration, but not much.

Then you can try setting the Input gain at, say, -4 dB. The compression can then be set to get the same 2 - 3 dB of compression and the Output level again to match the level you need. This time, because of the higher input drive on the unit, the sound will be much more colored, with a fabulous thick, warm character.

Mixing single tracks
This compressor character is incredibly musical on single mix tracks as well (not just on mastering entire mixes), just try it on pretty much every type of material: Vocals, Guitars, Bass, Piano, Strings, etc... with various time constants and 5 - 6 dB of compression. If you want to enhance the articulation of a vocal track try compressing 5 dB with time constant 1. The resulting vocal won't sound heavily compressed, just more consistent and solid.

Keep DC threshold controls near the minimum when you want the most transparent and invisible compression, and move them toward maximum if you want the compressor to be more noticeable and more limiter-like.

Mixing drums
On drums this compressor can be used to process a Stereo submix with superb results, especially in Lat/Vert mode, where you will be able by compressing the sides independently from the center to get the sound of the room exactly the way you want. Since the attack time is very fast, drums compressed with this processor will never sound snappy, allowing for a compression that will sound more natural.

Typical Mastering Setting
If this is the only compressor used in your mastering chain you can start with a setting like the default one or very similar. This will deliver from 1 to 2.5 dB of compression with time constant set at 5. This setting will glue all mix elements together without having the sound to appear compressed. If you want to compress more just rise the Threshold controls and compensate the average gain loss by incrementing the Output level.

In stereo mastering this unit should be used Linked or Lat/Vert, but sometimes 1 - 2 dB of "unlinked" stereo compression can give a nice instability touch to the stereo image that can be very pleasant.

This model has it's "own sound" when you just insert it, even without applying any compression (Threshold at zero). So an interesting experiment we invite you to do is just to insert this on the audio processing chain and listen to the very interesting sonic change that is applied by the 670 internal circuits and components.

7.7.2 Opto Compressor

figure 7.5

Think of this compressor (figure 7.5) as the purest analog modeled compressor in the T-RackS 3 package. When you want the sound of analog compression but want to keep the music original sonic texture with the little possible coloration, this is the right choice.

You will notice that no more than a few dB of compression are allowed at low RATIO values. For example with a 2:1 ration you'll not be able to compress more than 3 - 4 dB. This is normal for this device and it's because of the optical device modeled in this compressor that cannot attenuate more than a certain amount. If you need more compression just rise RATIO value.

This behavior is also very useful when compressing vocals because the compressor will follow vocals dynamic but will at the same time avoid squeezing the highest passages.

7.7.3 Linear Phase Equalizer

figure 7.6

This is a top class equalizer (figure 7.6) that can be sonically compared only to the high end digital equalizers used every day in mastering studios. It is so good that in most cases, it surpasses even expensive analog high end equalizers in terms of purity and transparency of the equalization.

Use this equalizer when you need to apply EQ with the least possible negative side effects and when you absolutely don't want the any side effects from equalization.

We suggest using the Linear Phase Equalizer to set the EQ you want to apply on your audio, and then to experiment with the Linear Phase button to evaluate, on the material you're working on, which phase response is the best. Typically linear phase equalization is more invisible and material processed with this technique appear “less” equalized than conventional EQ, so it gives headroom for more pronounced equalization before sounding overprocessed.

Remember that LINEAR PHASE can only be activated if the preference “Oversampling + Linear Phase” is checked.

7.7.4 Brickwall Limiter

figure 7.7

This processor (figure 7.7) should normally be used at the end of the T-RackS processing chain.

It's main purpose is to increase the volume by a few dB, typically from 1 to 3 with the maximum possible quality. You can normally start with CLEAN as this is the more neutral of all styles and than experiment with the various styles included.

If you want very high levels and a more hard character from the limiter when using the CLEAN style, simply lower the RELEASE time toward the very minimum. This will make the limiter work like a clipper, so fully preserving transient energy and impact, but with less drastic effect on the audio. The CLEAN style with very short release times (less than 1 ms) is particularly suitable for Pop, Rock, Hip Hop etc...

Keep slightly higher RELEASE times (around 10 ms) for music that does not need extremely intense levels. Longer RELEASE times, say more than 50 ms are especially useful for some “pumping” effects that are sometimes desirable.

Then you can start experimenting with the other Styles. ADVANCED styles uses a “mix” between warm and smooth saturation and digital limiting. They all are punchier and more colorful than CLEAN, and they can be effective on certain material because the actual limiting effect is less evident, at the expense of some saturation. Experiment with all advanced styles because the right kind of limiting could be a particular balance that only one of these styles provides.

HOW TO AVOID DIGITAL OVERS
Always keep an eye on the RED OVER indicators on the T-RackS 3 peak meters. They should NEVER go RED during the entire song. To avoid this you can simply use the Brickwall Limiter at the end of the chain and dial in a Ceiling value of -0.1 dB, OR enable the D/A Distortion Protection option in the Preferences.

7.7.5 Vintage Program Equalizer EQ-1A

figure 7.8

This is a classic (figure 7.8). It provides colorful equalization that can give character and tonal shape with incredible musicality. This equalizer is on the opposite side, in terms of usage, than the Linear Phase EQ. It's intervention is not spot-on and you should think of it more as a “tone control” than a surgical equalizer.

Remember that both Low Frequency and High Frequency BOOST and ATTEN controls are not overlapping, so if you, for example, dial in a low BOOST and ATTEN, both at 5, the resulting response will not be flat. This is a typical characteristic of this device, and it's one of the reasons why it is so loved to this day.

The design is based on a passive EQ network followed by a make up amplifier. The passive EQ network gives a presence and a tonal shaping power that is hard to obtain with conventional “pure” equalizers. For example a very nice touch of presence is given by setting the High filter like this:

- BANDWIDTH: 5
- BOOST: 4 - 5
- HIGH FREQ: 4 - 5 kHz

Like we said for the Vintage Compressor Model 670, also this model has it's “own sound” when you just insert it, even without applying any equalization. So another experiment we invite you to do is just inserting this on the audio processing chain and listen to the very interesting sonic change.

7.8 Managing Latency

As previously explained T-RackS 3 will declare three different latencies to the host program when starting, or at play / stop sequences, depending on what is selected on the following preferences:

- **Lowest Latency: use this setting when you need T-RackS 3 to have the shortest possible latency.** This setting is to be used, for example,

when you're using T-RackS 3 to process a real-time recording monitor mix. In this mode the total T-RackS 3 latency is 132 samples.

- **Oversampling: use this setting when you want to use oversampling.** This delivers higher quality to all T-RackS 3 processors but increases latency to 1284 samples.

- **Oversampling + Linear Phase: use this setting when the maximum audio quality is needed** and high latency is not a problem (for example when mastering). The LINEAR PHASE button on T-RackS 3 Linear Phase Equalizer will only be working with this setting ON. In this mode the T-RackS total latency is 19684 samples.

IMPORTANT NOTE: not all Digital Audio Workstations can compensate a latency as high as 20,704 samples. This is not a problem in mastering, but you might want to reduce the T-RackS 3 total latency from the preferences panel if you need to process tracks that must remain aligned to other ones (as using T-RackS in mixing). In this case there should be no problems since most of the DAWs can compensate the first two Latency levels, 128 and 2304 samples (Lowest Latency/Oversampling).

The highest latency level (> 20k samples) is only really needed when you must use the Linear Phase equalizer, and this is typically only used in Mastering, where you don't need latency to be compensated.

7.9 Master your room

When mastering with T-RackS you're making very important decisions about audio processing of the overall balance of the music you're working on, and, most important, you're making the very last audio intervention before public distribution. If you make a bad decision at this stage there will not be the possibility to fix it after.

There is another key factor in a correct mastering and mixing process that is often underestimated: your room acoustics. Unfortunately the sonic signature of the room can make even the best monitors to sound unreliable because of the aberrations and irregularities the room is creating.

Even the most experienced engineer with the highest quality equipment can ruin a mix, or even more easily, a master, because of the unreliability of the listening environments. There are factors that cannot be compensated by "training" or "learning the room."

For example, poor room acoustics can create very narrow peaks and dips in low-frequency that are very difficult to detect with the naked ear. In fact bass notes, for example, will never sound consistent, even if they are recorded evenly, so on certain notes you'll think you have too much bass, on other notes you'll find the bass disappearing.

For these reasons the room acoustical quality should be considered as important as the quality of all other chain links in your audio production studio, from bedroom studios to high end facilities.

In order to improve sonic accuracy of a room you can apply acoustical treatment to the walls, floor and ceiling, and this can be done up to very high quality results, but for very high prices. These solutions typically include treatments done with various mixed elements, absorbers, diffusers, bass traps, floating floors and so on.

Another convenient solution is to use IK's **ARC System**, the acoustic correction system in a plug-in. In developing ARC System, IK Multimedia has teamed up with the leading provider of sound equalization solutions, Audyssey, for the production of an innovative, low-cost and mobile solution to correct the distortion problems caused by room acoustics.

ARC System delivers the most advanced solution to acoustical problems for any DAW-based studio. Combining a professionally calibrated microphone, standalone software that captures sound information and calculates proper room correction, and a multi-platform plug-in, this technology will improve how your studio sounds forever.

ARC System features the revolutionary Audyssey MultEQ® technology, which measures acoustical information throughout the listening area in your studio. It then combines this information to provide an accurate representation of the room's acoustical problems. The equalization solution then corrects for both time and frequency response problems more effectively and efficiently than any other room correction EQ on the market. The result is a clear and reliable representation of your mix. Regardless of the acoustical issues in your studio, what you are recording, mixing or mastering becomes immediately clear and reliable and your studio sound will improve forever.

T-RackS 3 and ARC together form an ideal system, working together to allow the T-RackS 3 user to trust what he or she is hearing, which is truly the most important factor.

For more information on ARC System:

www.ikmultimedia.com/arc

ARC System™ is a trademark property of IK Multimedia Production Srl. Audyssey™, MultEQ®, Audyssey MultEQ® are trademarks property of Audyssey Laboratories™ Inc. used under license.

Chapter 8 Troubleshooting

Where can I find my IK product Serial Number?

The Serial Number is written on the Registration Card (included with your IK product, inside the license envelope). In the snapshot, please check its exact location (figure 8.1).

1) Here you can find your SERIAL NUMBER
REGISTRATION CARD
T-RackS 3
Software Serial
T-RackS 3 Deluxe
TRK30-77ZEZEIX-76312
LEGEND: ABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890
2) At the bottom of the registration card a legend helps you identify the characters in your SERIAL NUMBER

figure 8.1

For clear character identification, please analyze the legend.

IMPORTANT: the number zero can easily be identified in your Serial Number because it is crossed by a line.

Why is the Wizard rejecting my Serial Number?

Probably because it found a typo, so please analyze the common errors:
*Typing a 0 (“zero” number) instead of an O (“o” letter)
*Typing 1 (“one” number) instead of an I (“i” letter)
*Typing 2 (“two” number) instead of a Z (“z” letter)
*Typing 5 (“five” number) instead of an S (“s” letter)
*Typing 8 (“eight” number) instead of a B (“b” letter)
*Typing a “.” (point) instead of a “-” (minus)

Suggestions:

- Whenever it is possible, please Copy and Paste the information.
- Cut off all the leading and trailing spaces.
- Please type all codes UPPERCASE during the Installation and Registration process.
- Check that the Serial number that you are entering is in correlation with the product installed.

During the Product Registration process, I received this message: The Serial Number is already registered...

Remember that you are able to register your product only once. So, if you are trying to get a new Authorization Code, please go to our FAQ page at **www.ikmultimedia.com/FAQ.php** and read the "How can I get a new Authorization Code?" FAQ.

Where can I find my Digital ID?

The Digital ID is displayed in the Authorization window of your IK product (figure 8.2).

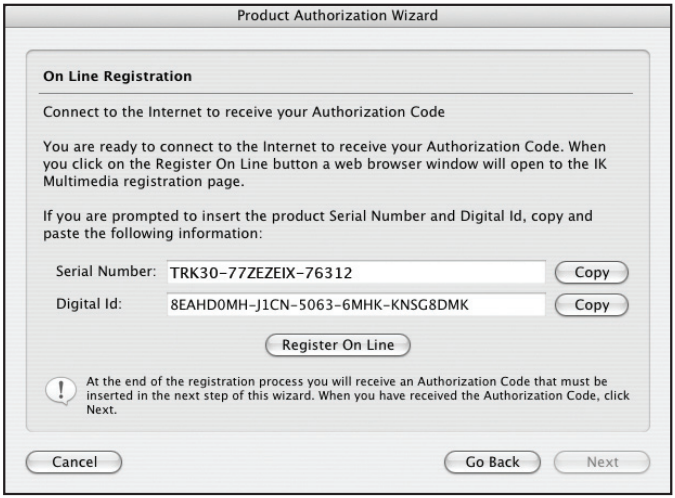

Product Authorization Wizard
On Line Registration
Connect to the Internet to receive your Authorization Code
You are ready to connect to the Internet to receive your Authorization Code. When you click on the Register On Line button a web browser window will open to the IK Multimedia registration page.
If you are prompted to insert the product Serial Number and Digital Id, copy and paste the following information:
Serial Number:
TRK30-77ZEZEIX-76312
Copy
Digital Id:
8EAHD0MH-J1CN-5063-6MHK-KNSG8DMK
Copy
Register On Line
At the end of the registration process you will receive an Authorization Code that must be inserted in the next step of this wizard. When you have received the Authorization Code, click Next.
Cancel
Go Back
Next

figure 8.2

Why is my Digital ID being rejected during the Online Registration process?

There is probably a typo in it. Remember that the Digital ID has NO letter "I" and "O", only the numbers "1" (one) and "0" (zero). In order to prevent any further mistakes, please Copy the Digital ID from the Authorization Form to the Registration Form.

Where can I find my Serial Number, Digital ID and the Authorization Code of a registered IK Product?

In your IK product interface, locate the Authorization button (the one with a small lock on it) and click on it. If your product version has no Authorization button, log in to the User Area, and click Authorizations. You will be able to check your product Serial Number. Then click on Request New. You will be able to check the Digital ID and the Authorization Code information.

How can I get a new Authorization Code?

Please go to our FAQ page at **www.ikmultimedia.com/FAQ.php** and read the "How can I get a new Authorization Code?" FAQ.

I have already registered my product online, but I did not get an Authorization Code.

Usually, this happens because the Digital ID was not submitted during the registration process. In order to get a new Authorization Code, please go to our FAQ page at **www.ikmultimedia.com/FAQ.php** and read the "How can I get a new Authorization Code?" FAQ.

I need to log in into the User Area but I forgot my User Name and Password. What should I do?

Please go to www.ikmultimedia.com. On the navigation bar click User Area. On the top left, please click on the "I forgot my username and/or password" link, located below the login button.

I have already installed, registered and authorized my IK product in my main computer. What do I have to do to use my IK product in other computers?

You need to install the program and get a new Authorization Code. Please go to our FAQ page at **www.ikmultimedia.com/FAQ.php** and read the "How can I get a new Authorization Code?" FAQ.

I just bought an IK product. What should I do to register and authorize my new product?

Visit our web site **www.ikmultimedia.com**
In the Support Area, click on the Product Registration link.

In the Serial Number field of the Product Registration Form, please insert the Serial Number written on the Registration Card (included with your IK boxed product, inside the license envelope) or the one that has been delivered to you (e.g. Online purchase, such as a Digital Delivery, or update).

Complete the Registration Form and click Submit.

Regarding the Authorization process, if you already typed your Digital ID while filling in the Product Registration Form, you will receive an e-mail from us with your Authorization Code. If not, after you launch the program the Product Authorization Wizard will appear. Please read and follow the instructions provided in each of the wizard's windows and get an Authorization Code.

Chapter 9 Support

For any question you may have, please refer to the FAQ webpage: **www.ikmultimedia.com/FAQ.php** where you will find answers to the most common questions.

To submit a Technical Support Form, go to:
www.ikmultimedia.com/Support.php

For other requests such as Product, Sales, or Web info, please go to:
www.ikmultimedia.com/ContactIKForm.php

9.1 User Area

The User Area is a special section of our website specifically designed for our users' needs (figure 9.1).

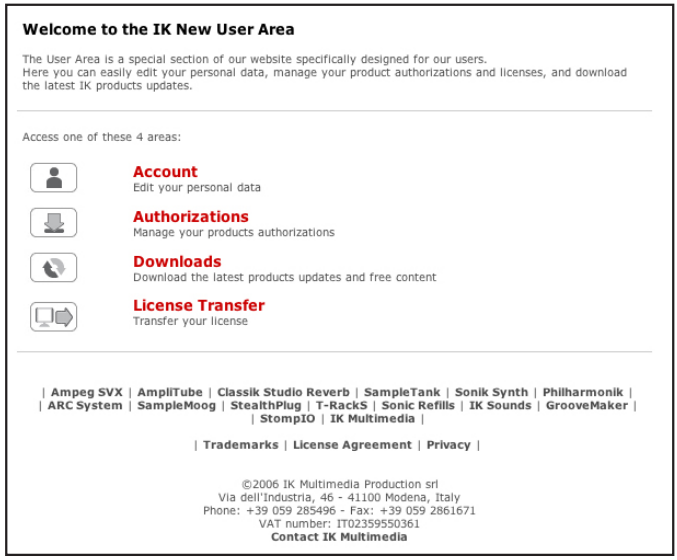

Welcome to the IK New User Area
The User Area is a special section of our website specifically designed for our users.
Here you can easily edit your personal data, manage your product authorizations and licenses, and download the latest IK products updates.
Access one of these 4 areas:
Account
Edit your personal data
Authorizations
Manage your products authorizations
Downloads
Download the latest products updates and free content
License Transfer
Transfer your license
| Ampeg SVX | AmpliTube | Classik Studio Reverb | SampleTank | Sonik Synth | Philharmonik | | ARC System | SampleMoog | StealthPlug | T-RackS | Sonic Refills | IK Sounds | GrooveMaker | | StompIO | IK Multimedia |
| Trademarks | License Agreement | Privacy |
©2006 IK Multimedia Production srl
Via dell'Industria, 46 - 41100 Modena, Italy
Phone: +39 059 285496 - Fax: +39 059 2861671
VAT number: IT02359550361
Contact IK Multimedia

figure 9.1

Through the User Area, each member of our registered users will be able to:

- Edit your Personal data
- Manage your product Authorization Codes
- Download the latest product updates and free content
- Transfer your License

To access the User Area go to:

www.ikmultimedia.com/userarea

or go to **www.ikmultimedia.com** and click User Area from the navigation bar.

To enter the User Area for the first time, you have to Log in with the Username and Password that you've received from us via email after your first IK product registration. If you have already changed your Username and Password, please use your most current information to Log in.

T-RackS® is a registered trademark property of IK Multimedia Production. All other product names and trademarks are the property of their respective owners, which are in no way associated or affiliated with IK Multimedia. Product names are used solely for the purpose of identifying the specific products that were studied during IK Multimedia's sound model development and for describing certain types of tones produced with IK Multimedia's digital modeling technology. Use of these names does not imply any cooperation or endorsement. Fairchild® is a registered trademark property of Avid Technology, Inc. Mac and the Mac logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Windows Vista and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Mac and the Mac logo are trademarks of Apple Computer, Inc., registered in the U.S. and other countries. Windows Vista and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. QuickTime and the QuickTime logo are trademarks or registered trademarks of Apple Computer, Inc., used under license therefrom. The Audio Units logo is a trademark of Apple Computer, Inc. VST is a trademark of Steinberg Media Technologies GmbH.

www.t-racks.com

IK Multimedia Production Srl, Via dell'Industria 46, 411 00, Modena, Italy.
Phone: +39-059-285496 - Fax: +39-059-2861671
IK Multimedia US LLC, 11 53 Sawgrass Corporate Pkwy. Sunrise, FL 323
Phone: (954) 846-9101 - Fax: (954) 846-9077

www.ikmultimedia.com

All specifications are subject to change without further notice.